Metal Wall & Roof Systems
North America

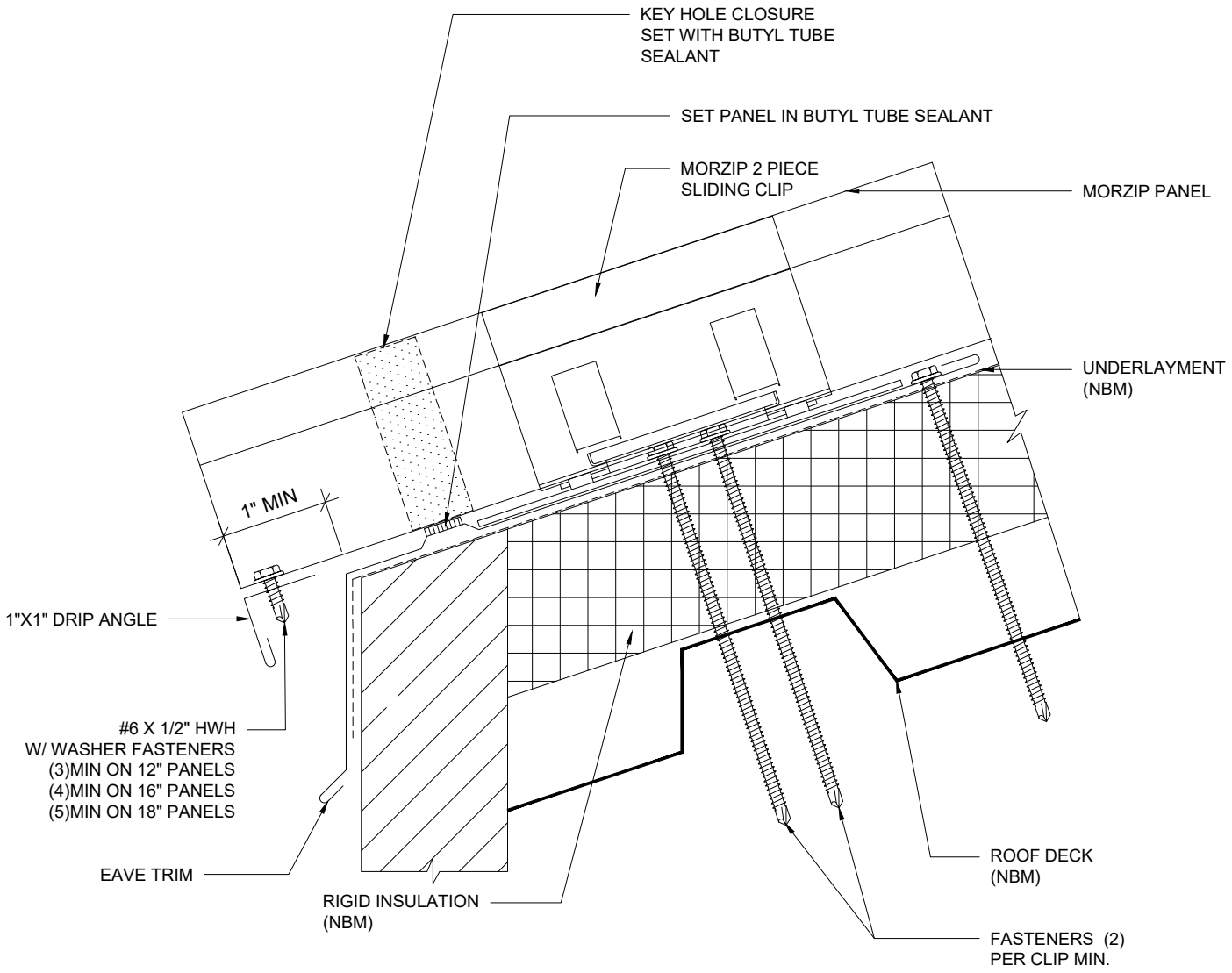
Protected by Morin By Kingspan WARRANTY

Morin MorZip™ Series Metal Roof System Installation Details

Innovative Single Element Building Envelope Solution

Morin® By Kingspan

MorZip™ Series



Eave design must be able to allow for the total amount of expansion of the panel if the ridge is fixed. A drip trim should be used to stiffen the flat of the panel and block wind driven rain. This piece also assists in limiting the amount of bow of the flat under high wind.
Since sealant between roof underlayment and panel may limit expansion or rupture, protection against wind blown water infiltration is provided by folding the panel under, which allows for thermal expansion.
Detail must be designed to allow for maximum thermal movement. Floating eave requires fixed ridge.

FLOATING LOW EAVE DETAIL

*NBM = Not By Morin

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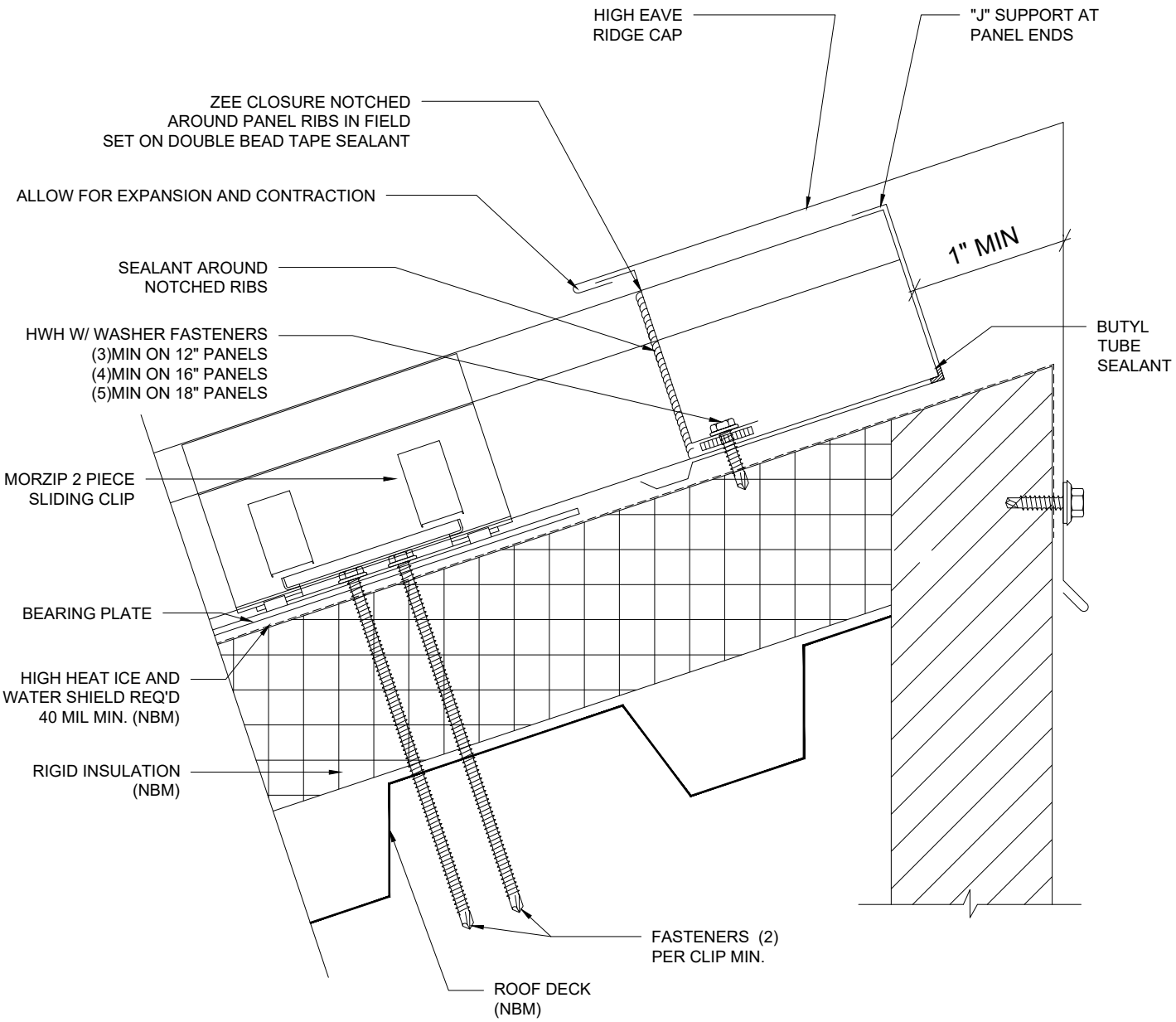

Note:

- Clip fasteners must be long enough to fasten into low cells of decking.
-Floating high eave requires fixed low eave or mid-point of roof.
-Gap as required for thermal movement.
-Slip joint at ridge cap to Z closure is required to allow project thermal movement.

FLOATING HIGH EAVE DETAIL

*NBM = Not By Morin

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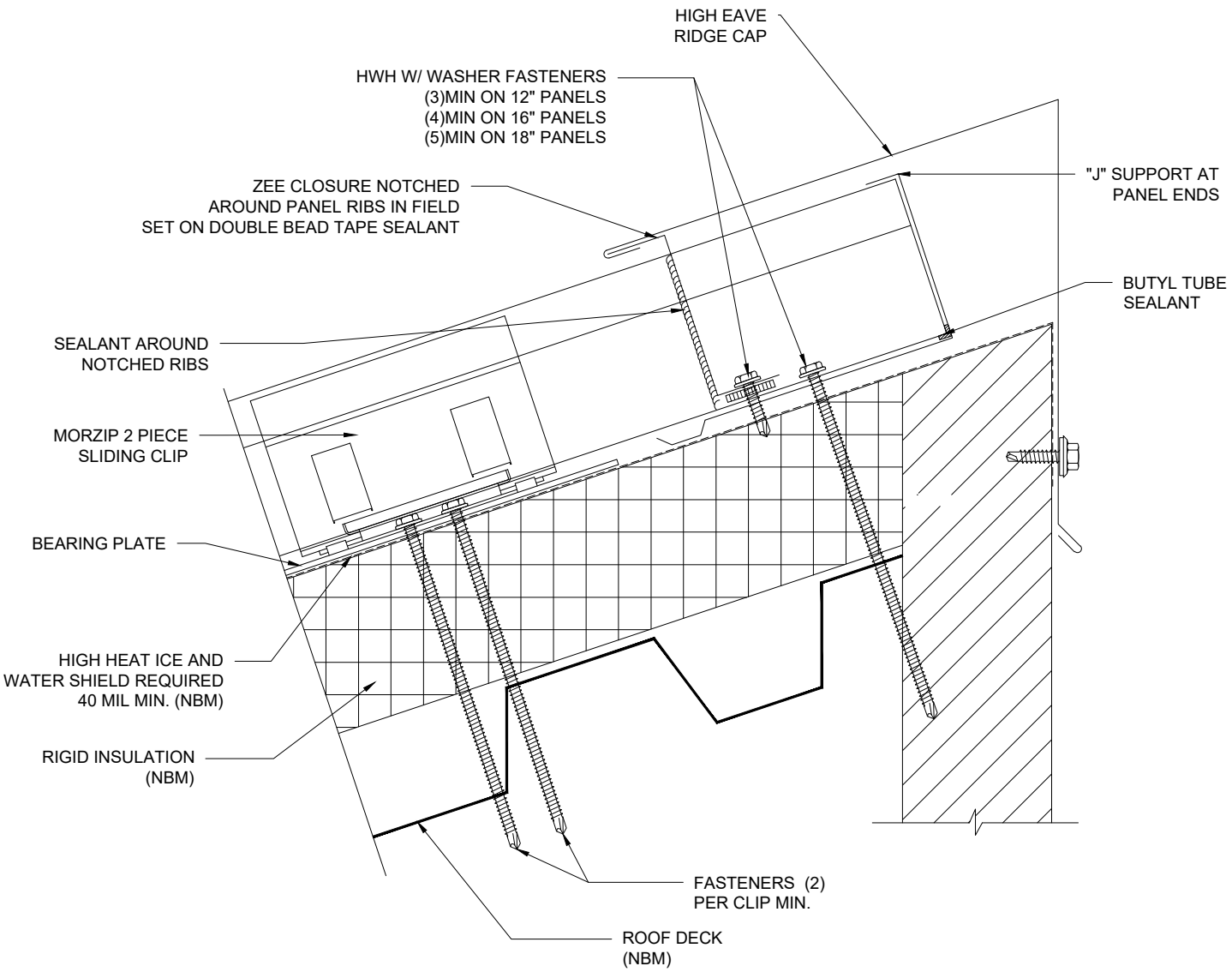

Note:
-Clip fasteners must be long enough to fasten into low cells of decking.
-Fixed high eave requires floating low eave and mid-point of roof.

FIXED HIGH EAVE DETAIL

*NBM = Not By Morin

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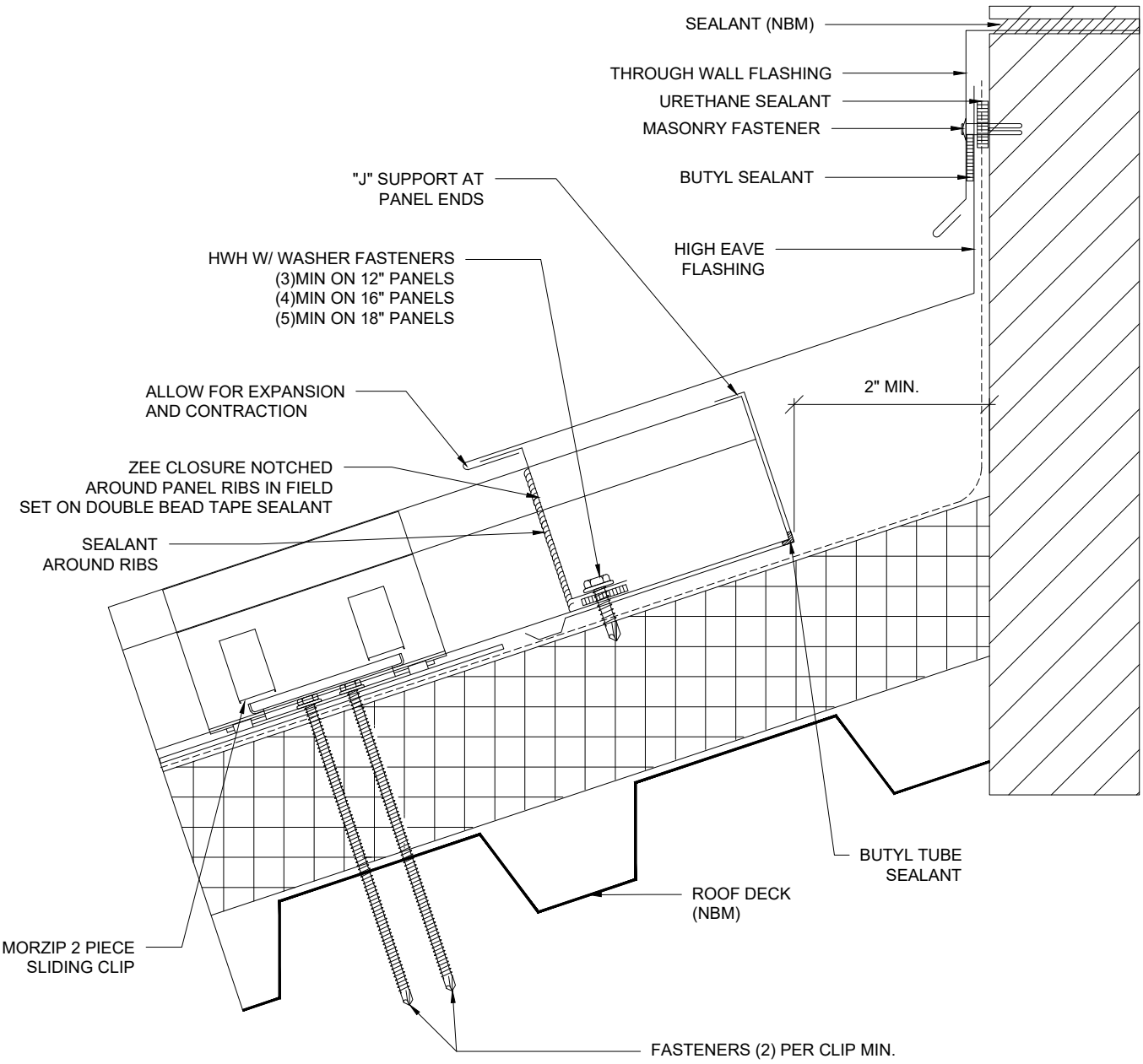

Note:

- Clip fasteners must be long enough to fasten into low cells of decking.
- High eave to wall flashings are similar to ridge conditions.
- Attention must be given to the design for sealing and panel movement.
- Where snow buildup is a concern, the design of the trim must take into account the excess loading.
-Slip joint at ridge cap to Z closure is required to allow project thermal movement.

FLOATING WALL TO ROOF HIGH EAVE DETAIL

*NBM = Not By Morin

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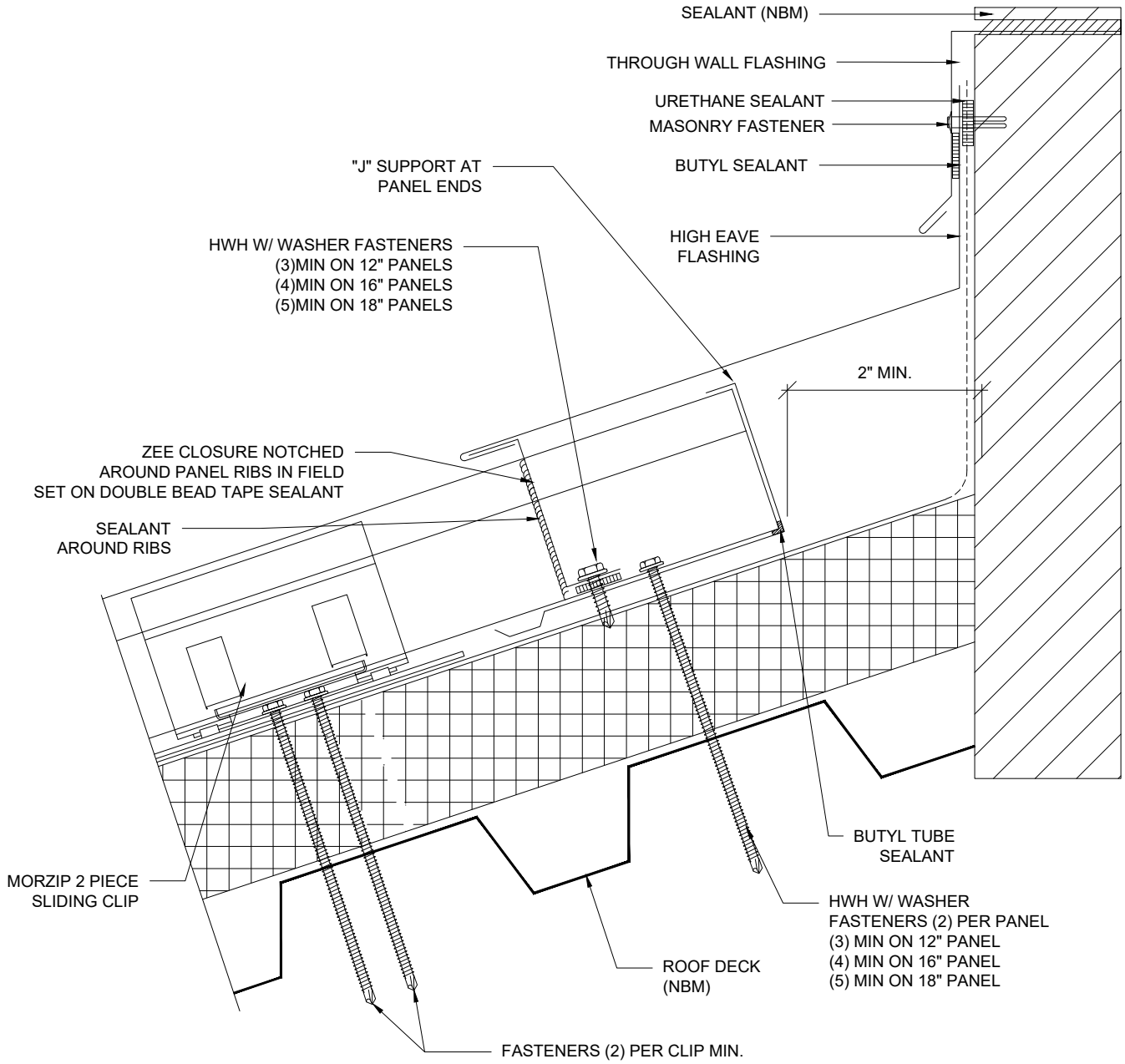

Note:

- Clip fasteners must be long enough to fasten into low cells of decking.
- High eave to wall flashings are similar to ridge conditions.
- Where snow buildup is a concern, the design of the trim must take into account the excess loading.
-If ridge condition is required to "float", slip joints must be made to accommodate the required expansion.

FIXED WALL TO ROOF HIGH EAVE DETAIL

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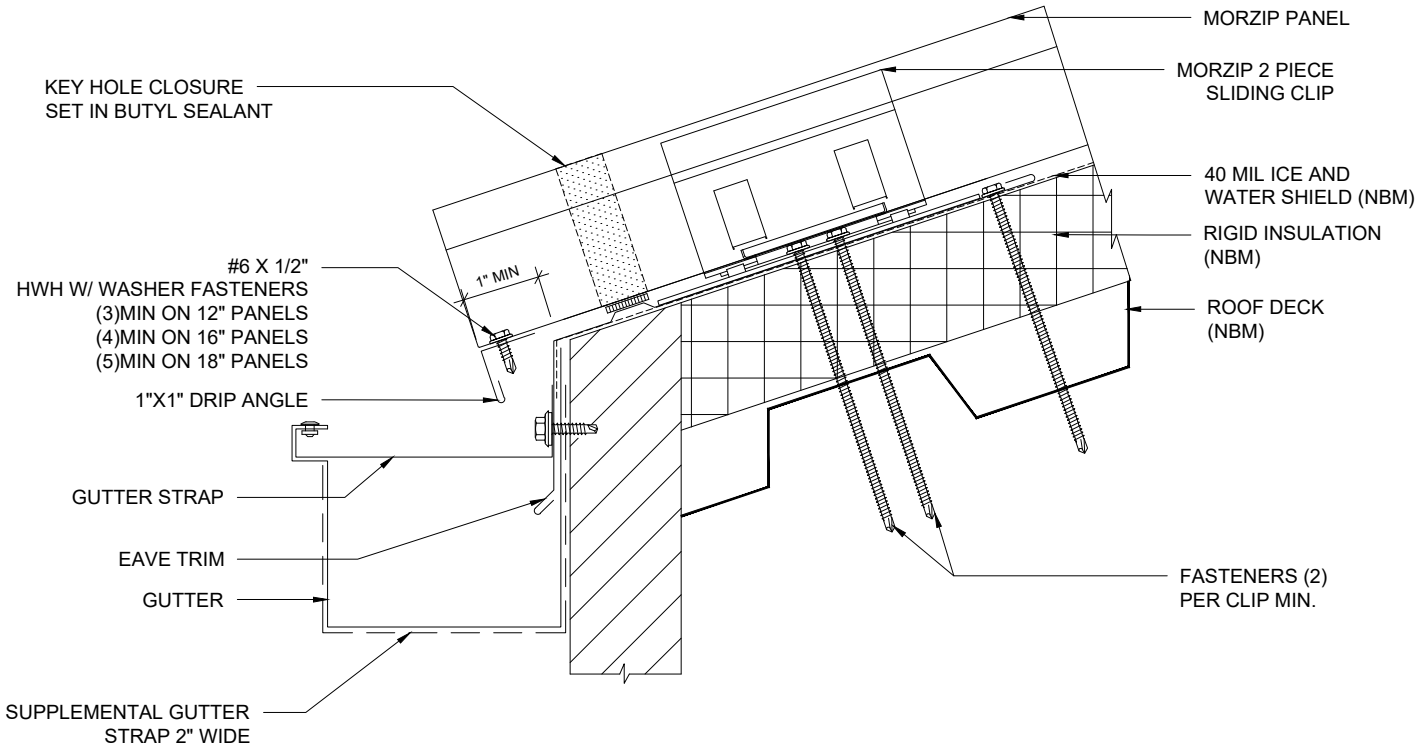

Consideration during design must be given to capacity, overflow, accessibility for cleaning, and aesthetics. Attachments must provide structural supports and allow for thermal movement. Protection from ice and snow must be considered during the detailing of this condition. Edge of gutter should be reinforced in areas of snow or ice accumulation. The edge of the gutter should be below the roof plane to allow for evacuation of the snow build-up. The gutter should be independent of the roof panel as not to inhibit the thermal movement of the roof. Floating eave requires fixed ridge or mid-point of panel length.

FLOATING LOW EAVE WITH GUTTER DETAIL

*NBM = Not By Morin

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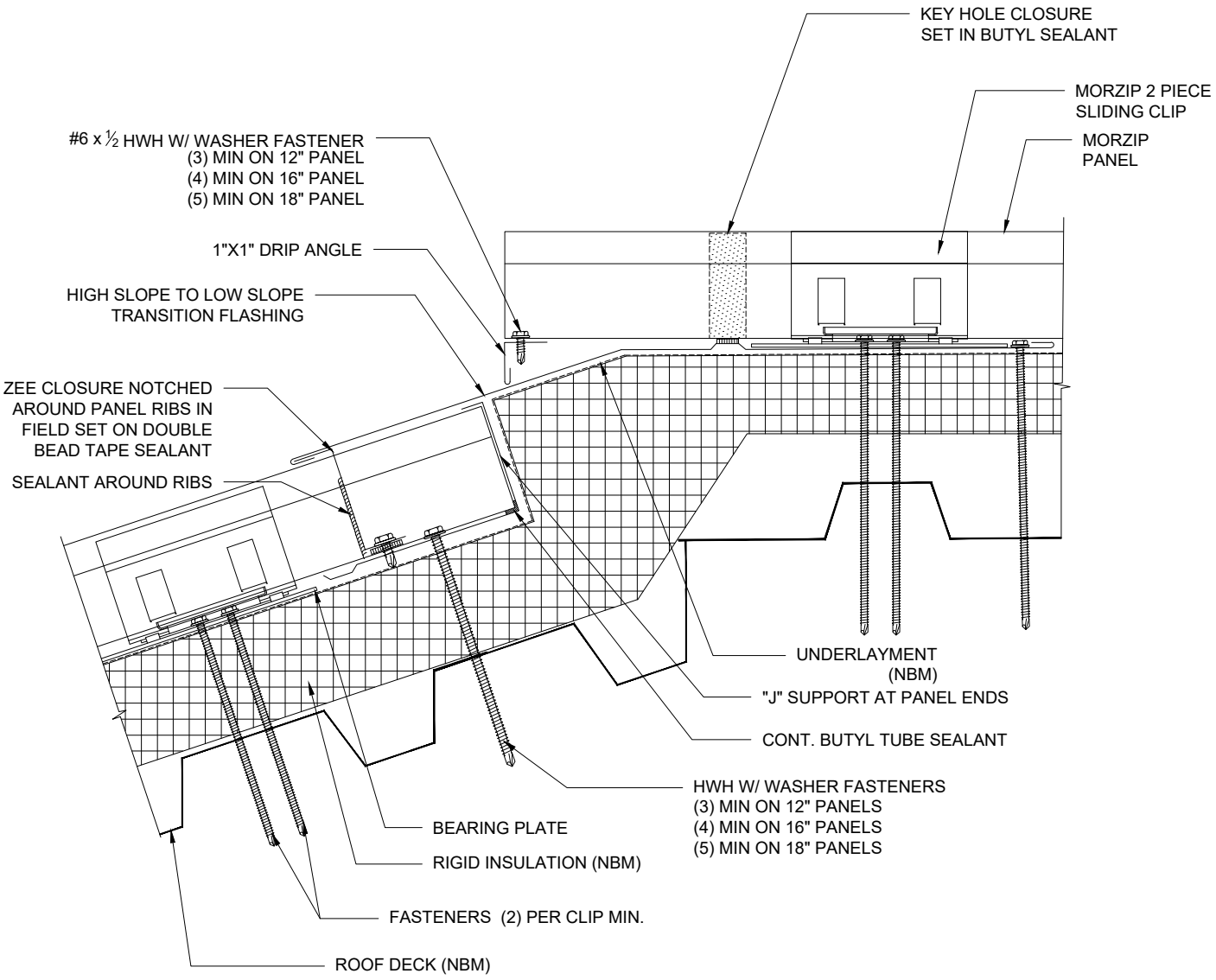

Note:
- Clip fasteners must be long enough to fasten into low cells of decking.
- Attention must be given to the design for sealing and panel movement.
- Where snow buildup is a concern, the design of the trim must take into account the excess loading.
-If ridge condition is required to “float”, slip joints must be made to accommodate the required expansion.
-Slip joint at ridge cap to Z closure is required to allow project thermal movement.

FIXED LOW ROOF TO FLOATING HIGH ROOF
TRANSITION HIGH SLOPE TO LOW SLOPE DETAIL

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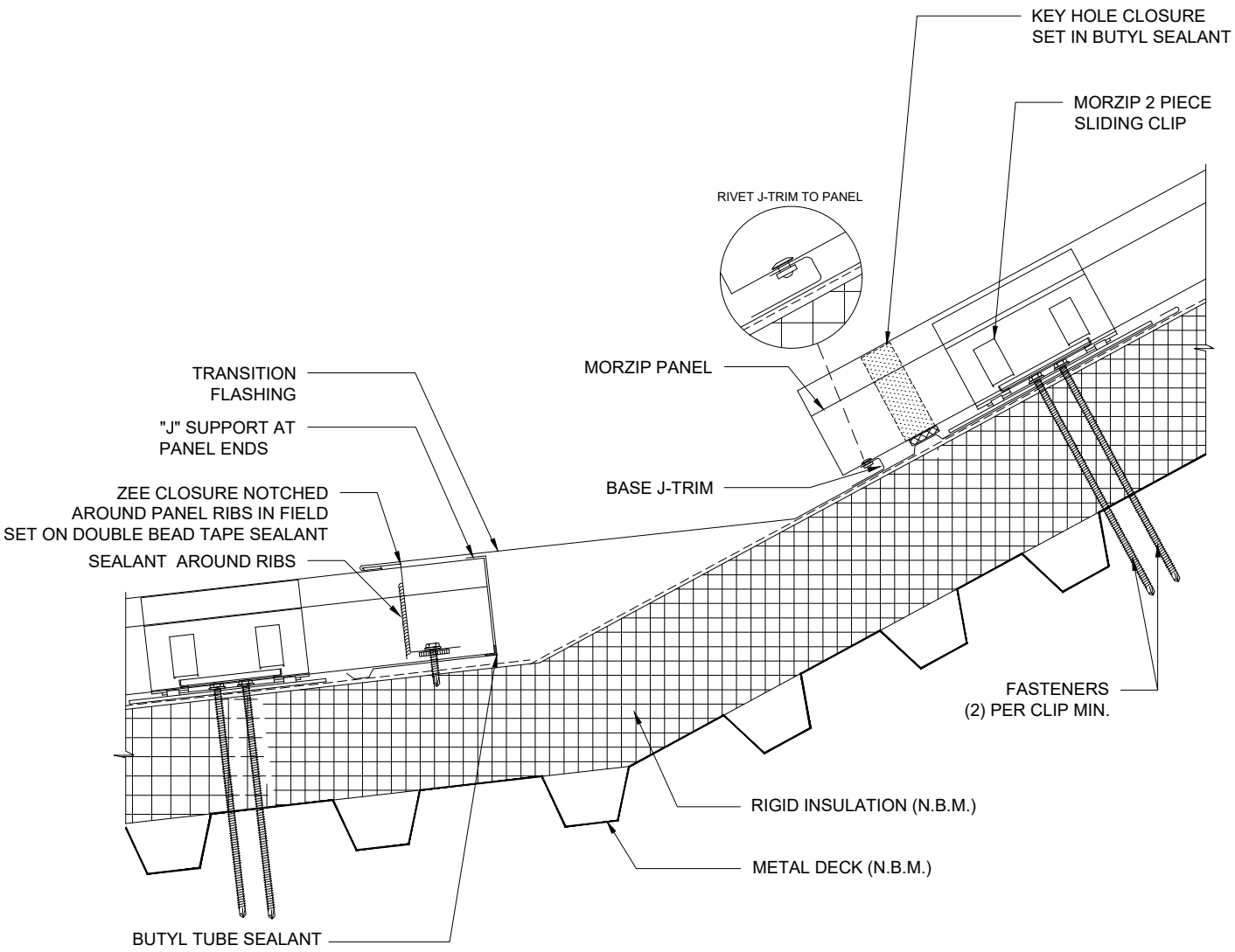

Note:
- Clip fasteners must be long enough to fasten into low cells of decking.
- Floating panels require fixed connections at opposite ends.
- Attention must be given to the design for sealing and panel movement.
- Where snow buildup is a concern, the design of the trim must take into account the excess loading
- If ridge condition is required to “float”, slip joints must be made to accommodate the required expansion

FLOATING LOW SLOPE TO HIGH SLOPE DETAIL

*NBM = Not By Morin

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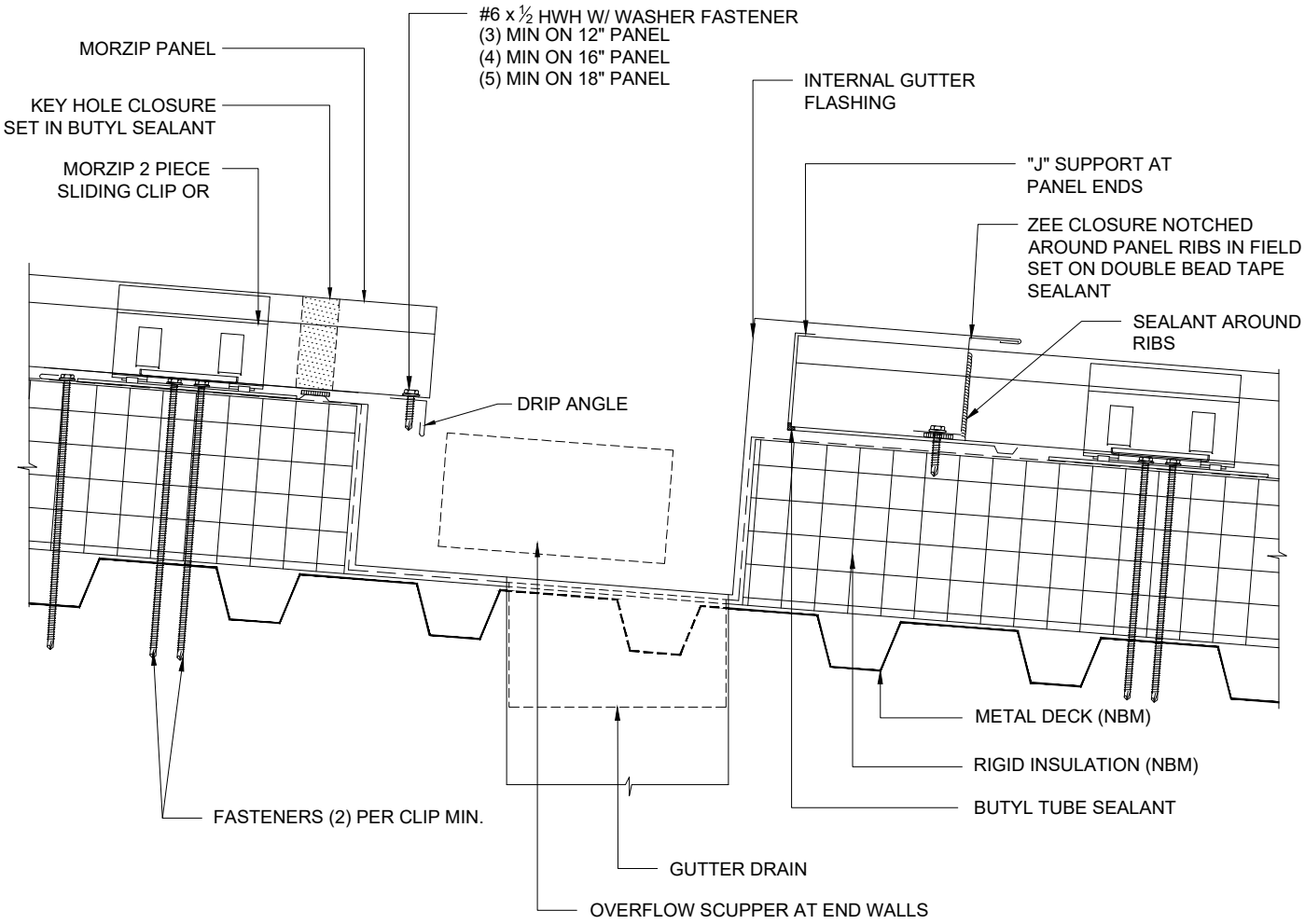

Where an exposed gutter may distract from the aesthetics of the building, an internal gutter may be required. The condition and roof design must allow for this condition to be “fixed and floating” against thermal movement. Considerations must be made in areas of ice or snow to avoid blockage of the gutter or drains. Overflow scuppers are required at each end of the gutter. This design relies on sealant to form the weather barrier. Designers should be aware of the hazards and allow for adequate drainage.
Note: Upper panel is shown as floating and lower panel as fixed. Some locations on project may have opposite conditions.
-Morin requires stainless steel liner and membrane for all internal gutter (NBM).
-Reference low eave detail for optional hemmed panel.
Contact Morin Technical Dept. for optional details.

INTERNAL GUTTER DETAIL

MORIN DOES NOT WARRANT INTERNAL GUTTER CONDITIONS

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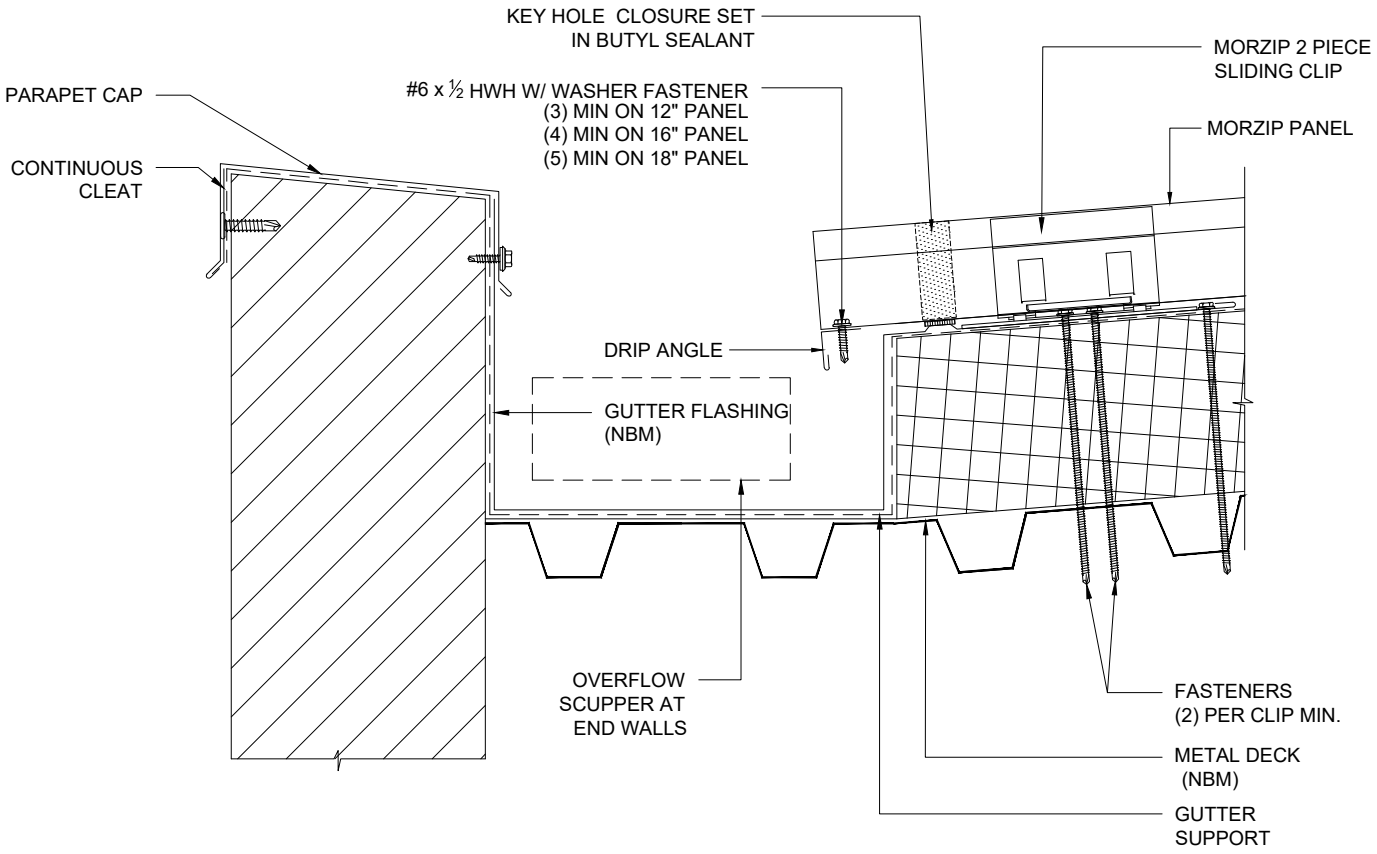

Note:
-Panel is shown as floating. Some locations on project may have fixed condition.
-Over flow scupper recommended at ends of gutter.
-Reference low eave detail for optional hemmed panel.
-Morin requires stainless steel liner and membrane for all internal gutter (NBM).

Contact Morin Technical Dept. for optional details.

FLOATING INTERNAL GUTTER WITH PARAPET WALL DETAIL

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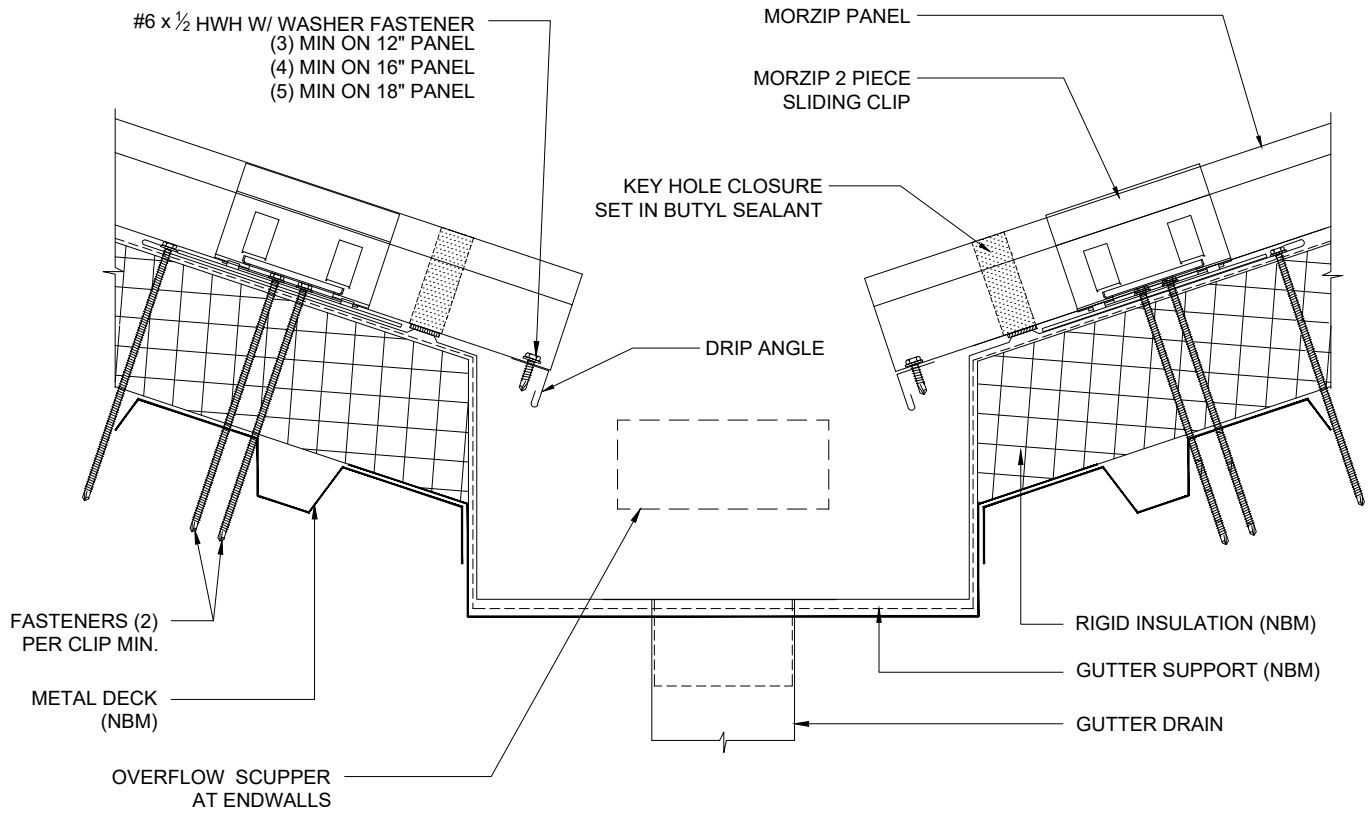

Note:
-Panel is shown as floating. Some locations on project may have fixed condition.
-Over flow scupper recommended at ends of gutter.
-Reference low eave detail for optional hemmed panel.
-Morin requires stainless steel liner and membrane for all internal gutter (NBM).

Contact Morin Technical Dept. for optional details.

FLOATING INTERNAL VALLEY GUTTER DETAIL

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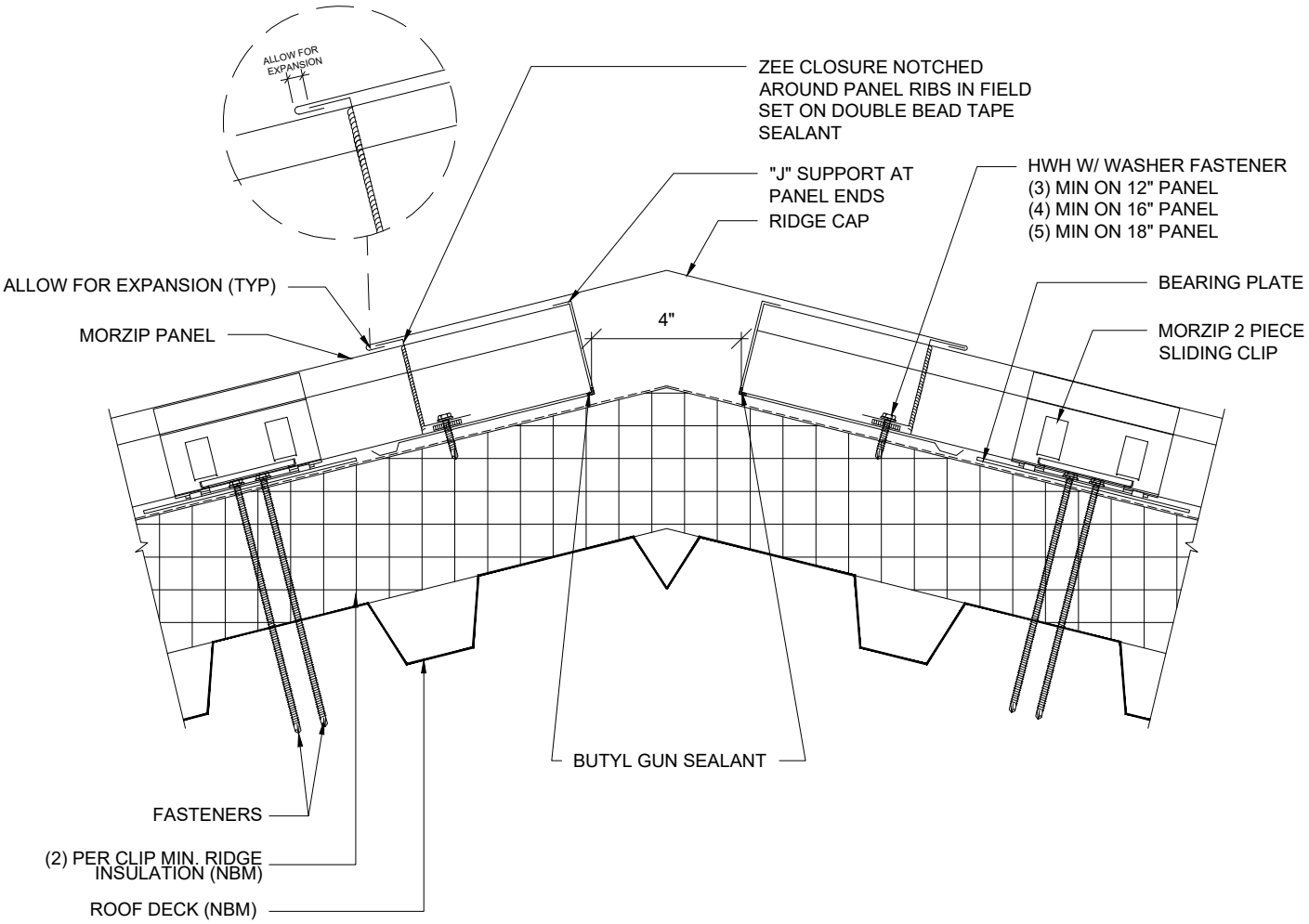

Note:
-If ridge condition is required to “float”, slip joints must be made to accommodate the required expansion.
-Clip fasteners must be long enough to fasten into low cells of decking.
-Floating high eave requires fixed low eave or mid-point of roof.
-Gap as required for thermal movement.
-Slip joint at ridge cap to Z closure is required to allow project thermal movement.

FLOATING RIDGE AND HIP DETAIL

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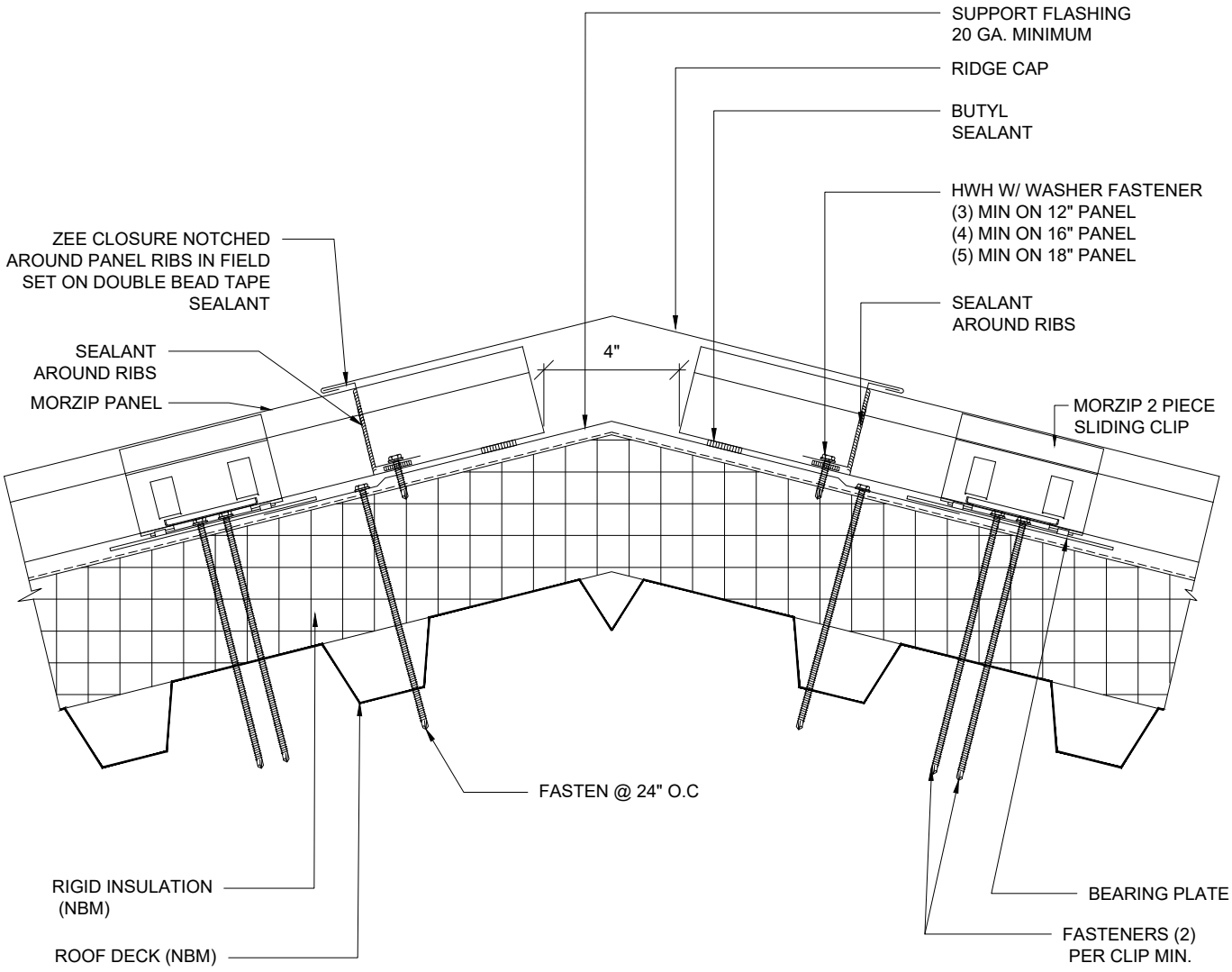

Note:
-Clip fasteners must be long enough to fasten into low cells of decking.
-Floating high eave requires fixed low eave or mid-point of roof.
-Gap as required for thermal movement.
-Slip joint at ridge cap to Z closure is required to allow project thermal movement.

FIXED RIDGE & HIP DETAIL

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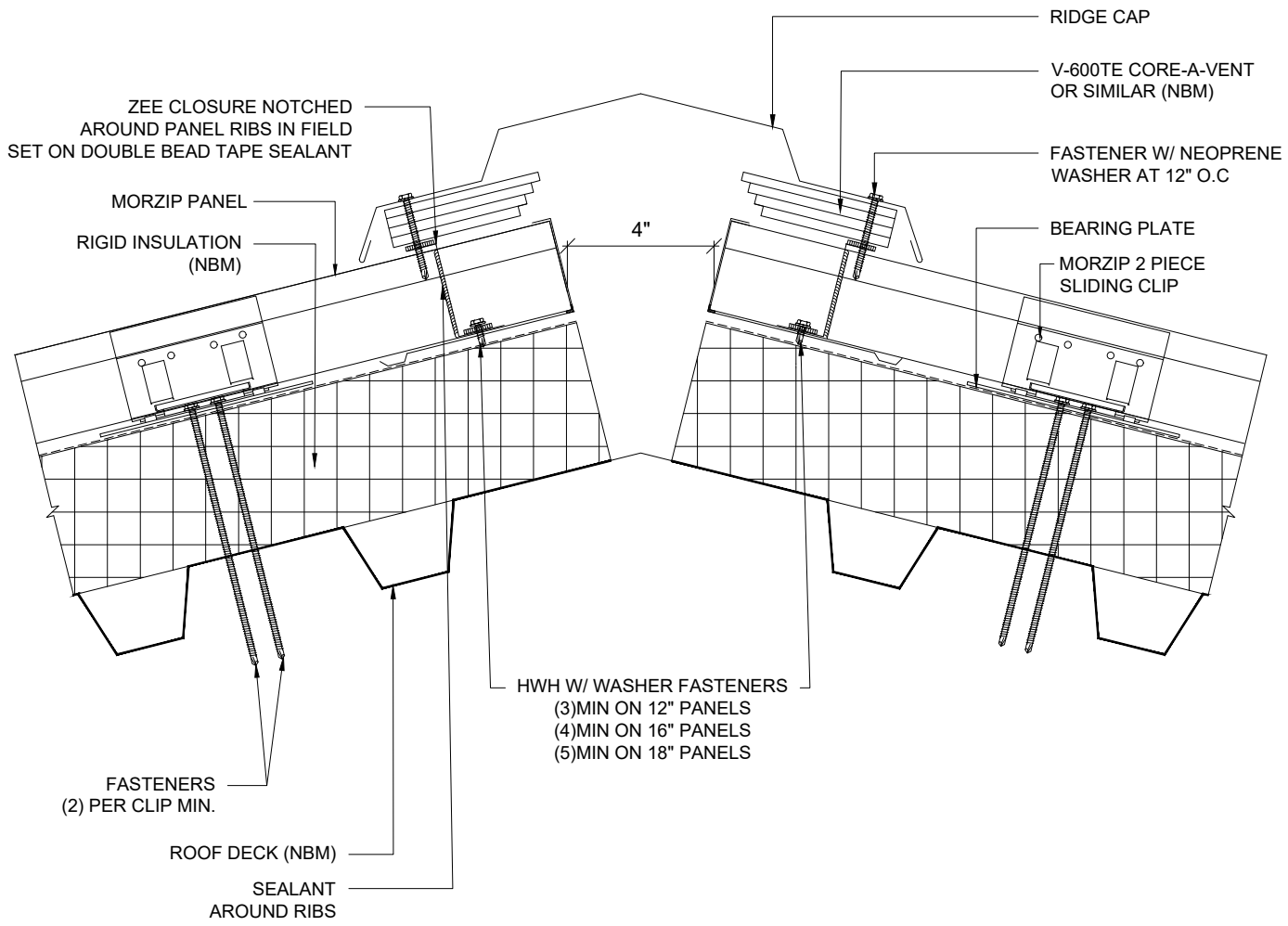

FLOATING VENTED RIDGE DETAIL

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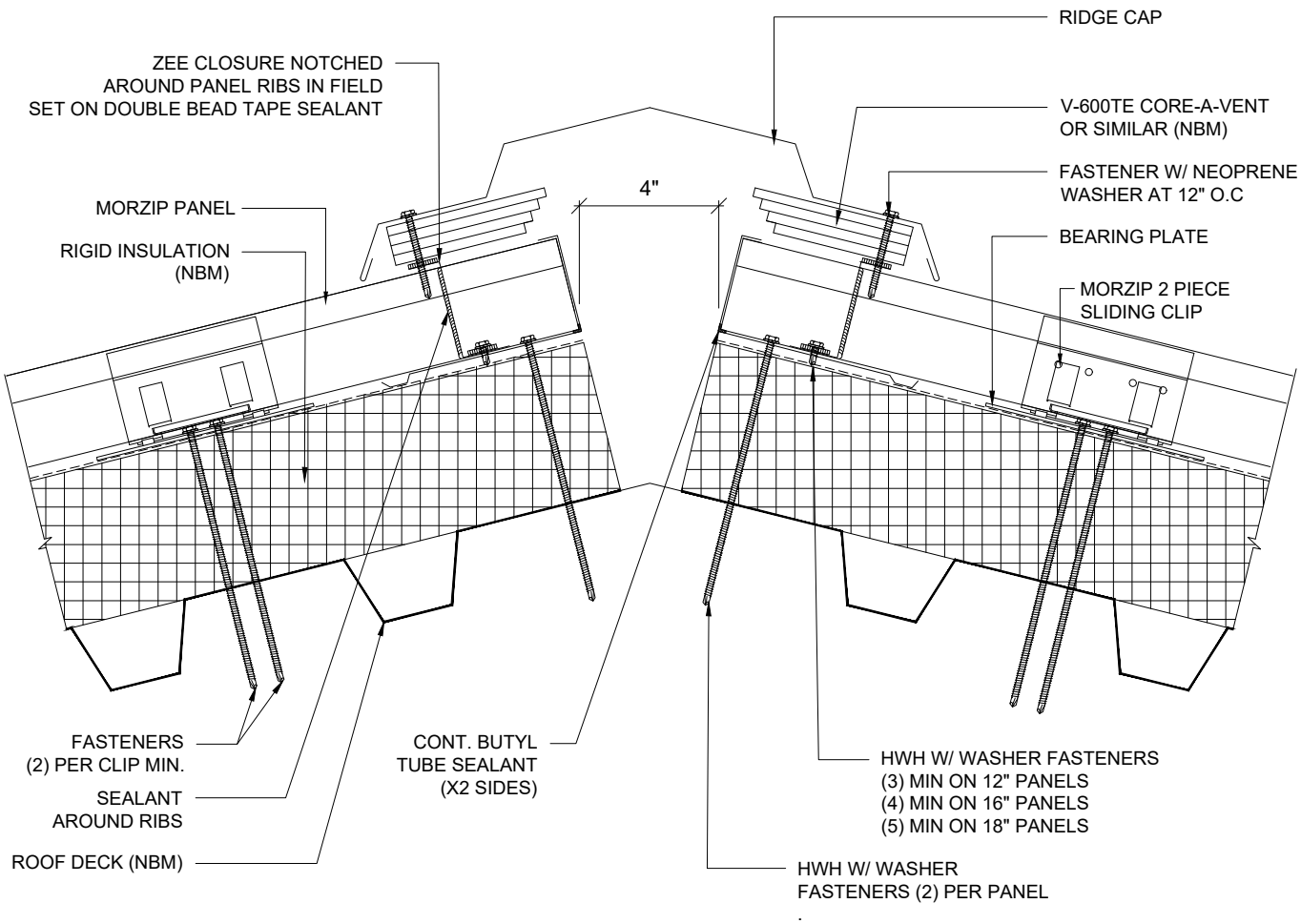

FIXED VENTED RIDGE DETAIL

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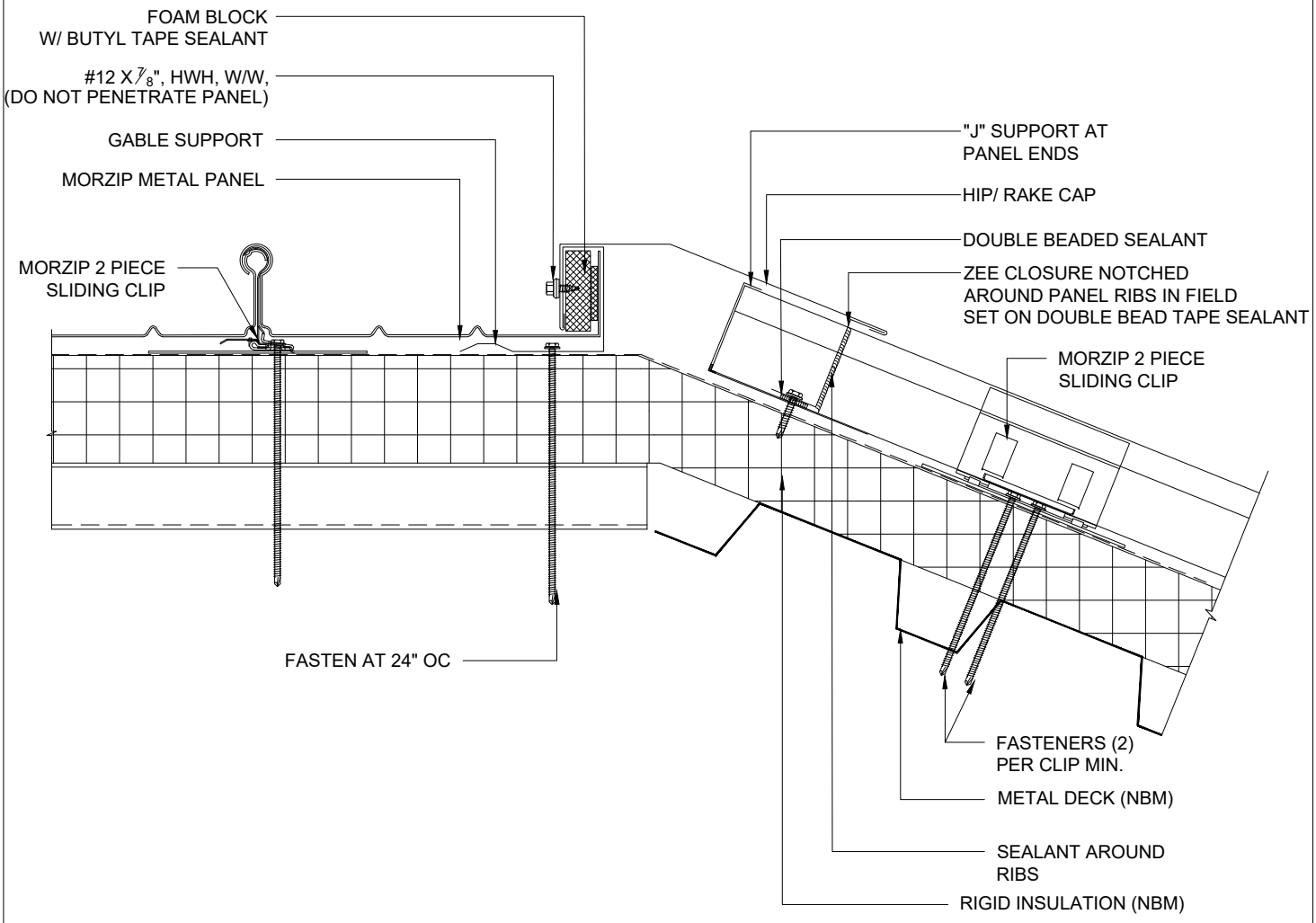

OPTIONS:

1) Field cut starter panel so that rake panels on both ends of roof are of same width requires field bending of cut panel to fit under formed 18 gauge gable support (as shown above).
2) Start roof with full panel, insert roll formed leg under formed 18 gauge gable support.

Note:

- If ridge condition is required to “float”, slip joints must be made to accommodate the required expansion.

HIP TO RAKE DETAIL

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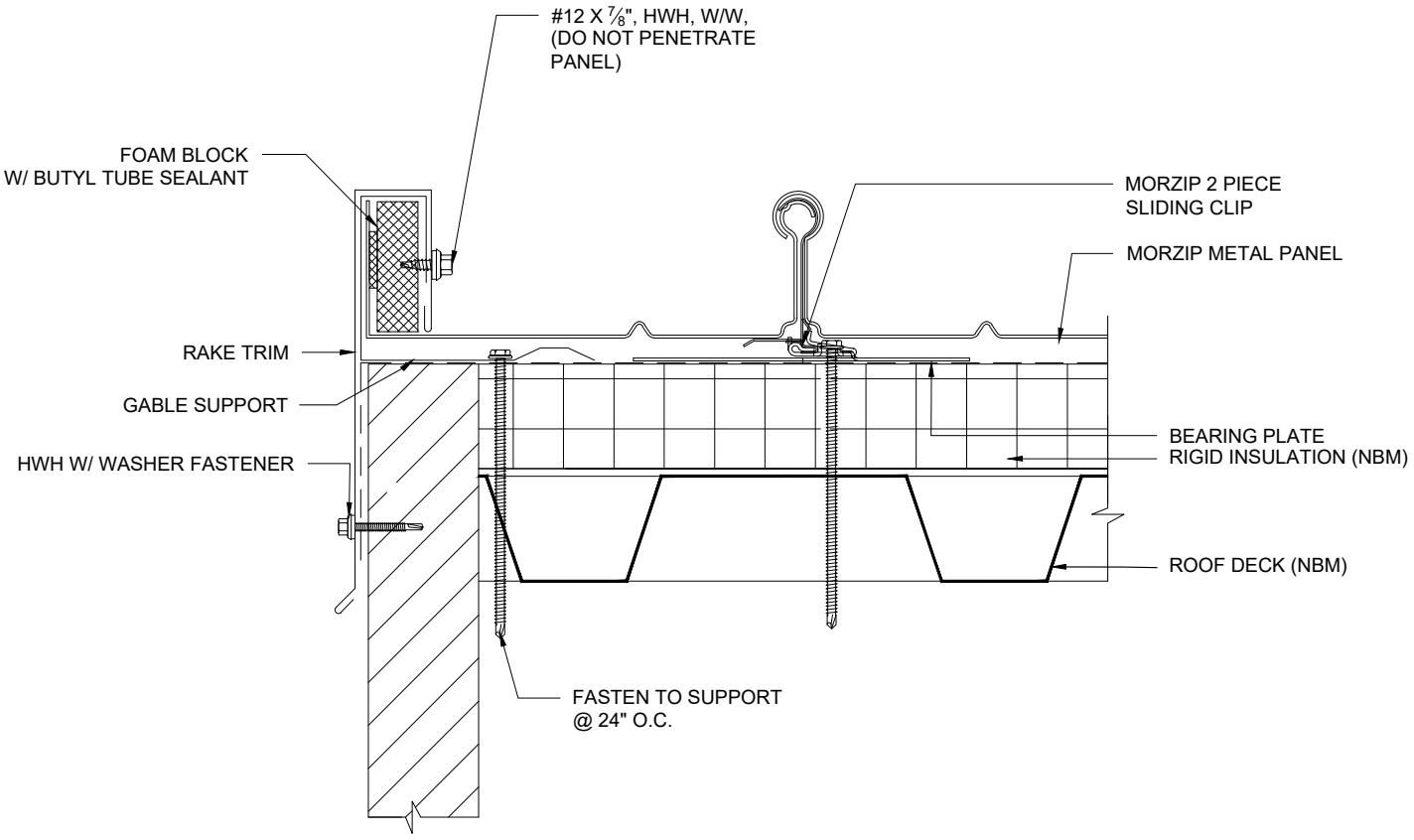

The roof and structure must be allowed to move independently of each other. Thermal movement cannot be restricted. The gable clip is designed to allow this movement while holding down the roof panel. It will also hold the roof panel off the structure the same distance as both hold down clips. Since the gable clip is stationary, the gable trim piece can be attached to it for positive anchoring. The design of the gable flashing can be modified to suit the individual project as long as the basic concept is maintained. The continuous gable supports are supplied in 10' section lengths.

Options:
1) Field cut starter panel so that rake panels on both ends of roof are of same width.
Requires field bending of cut panel to fit under formed gable support
2) Start roof with full panel, insert female leg under formed gable support.
3) Clip fasteners must be long enough to fasten into low cells of decking.

FLOATING GABLE / RAKE DETAIL

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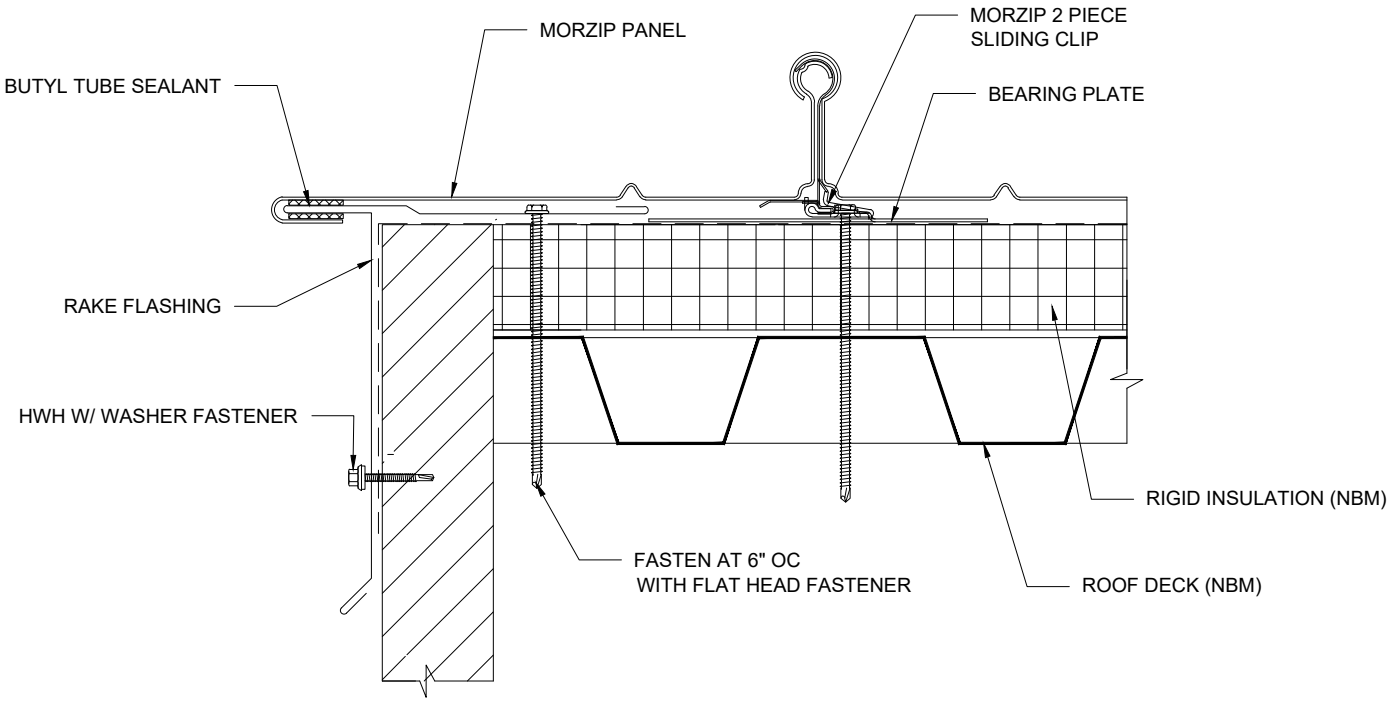

SEE NEXT PAGE FOR INSTALLATION SEQUENCE

RAKE @ STEPPED EAVE

Note:
- Field cut starter panel so that rake panels on both ends of roof are of same width.
-Requires field bending of cut panel to fit under formed gable support
- Start roof with full panel, insert female leg under formed gable support
- Clip fasteners must be long enough to fasten into low cells of decking

RAKE AT STEPPED EAVE DETAIL

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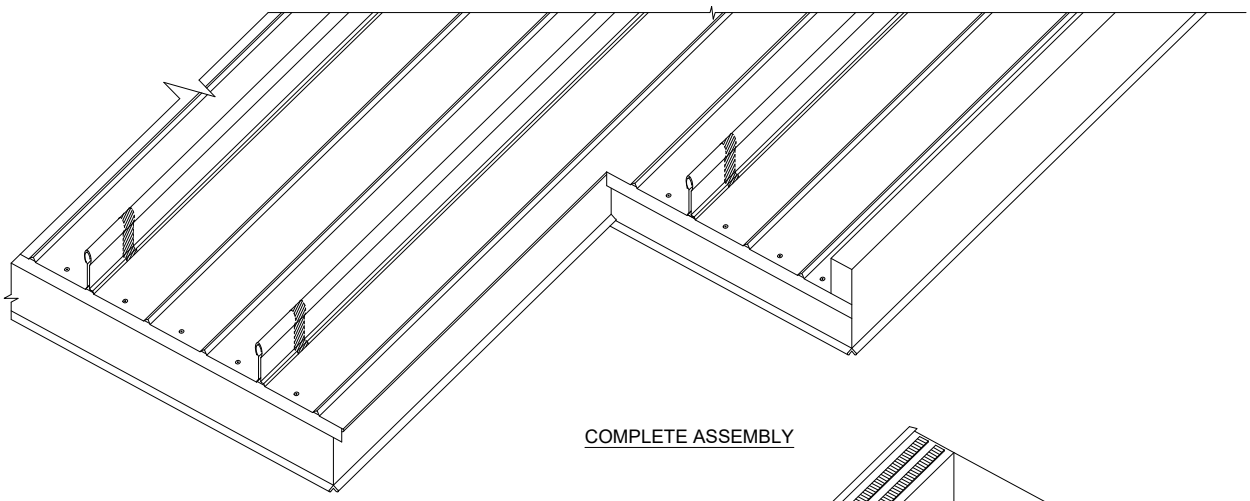
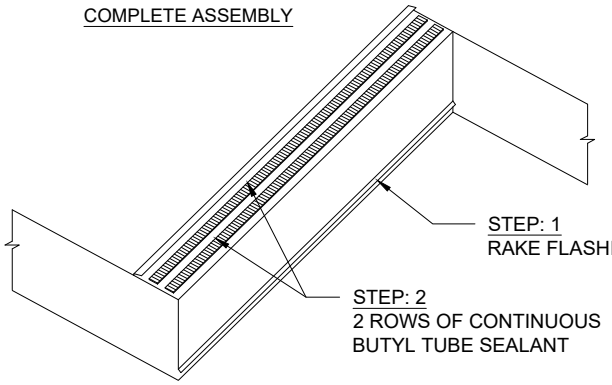
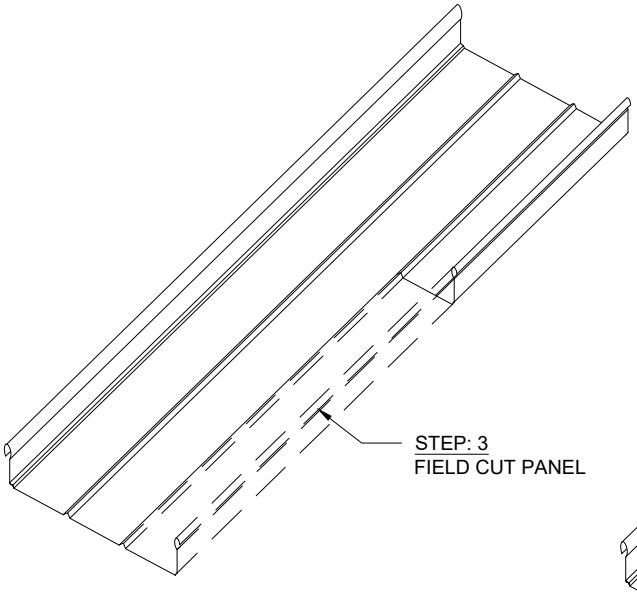


COMPLETE ASSEMBLY

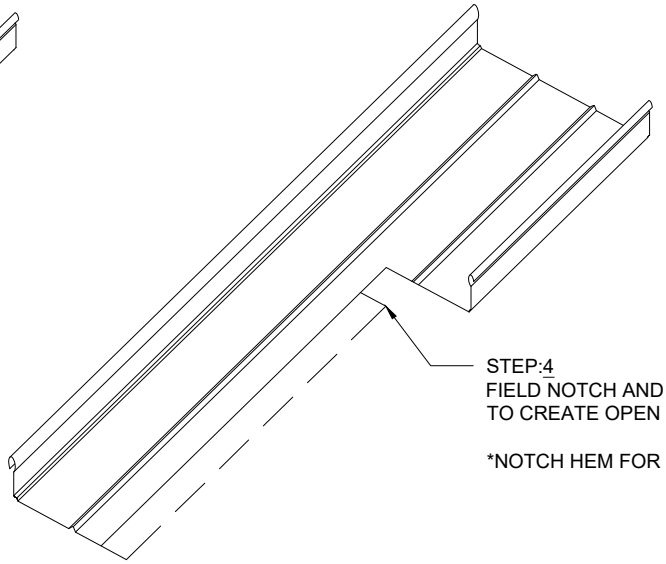


STEP: 1
RAKE FLASHING

STEP: 2
2 ROWS OF CONTINUOUS
BUTYL TUBE SEALANT



STEP: 3
FIELD CUT PANEL



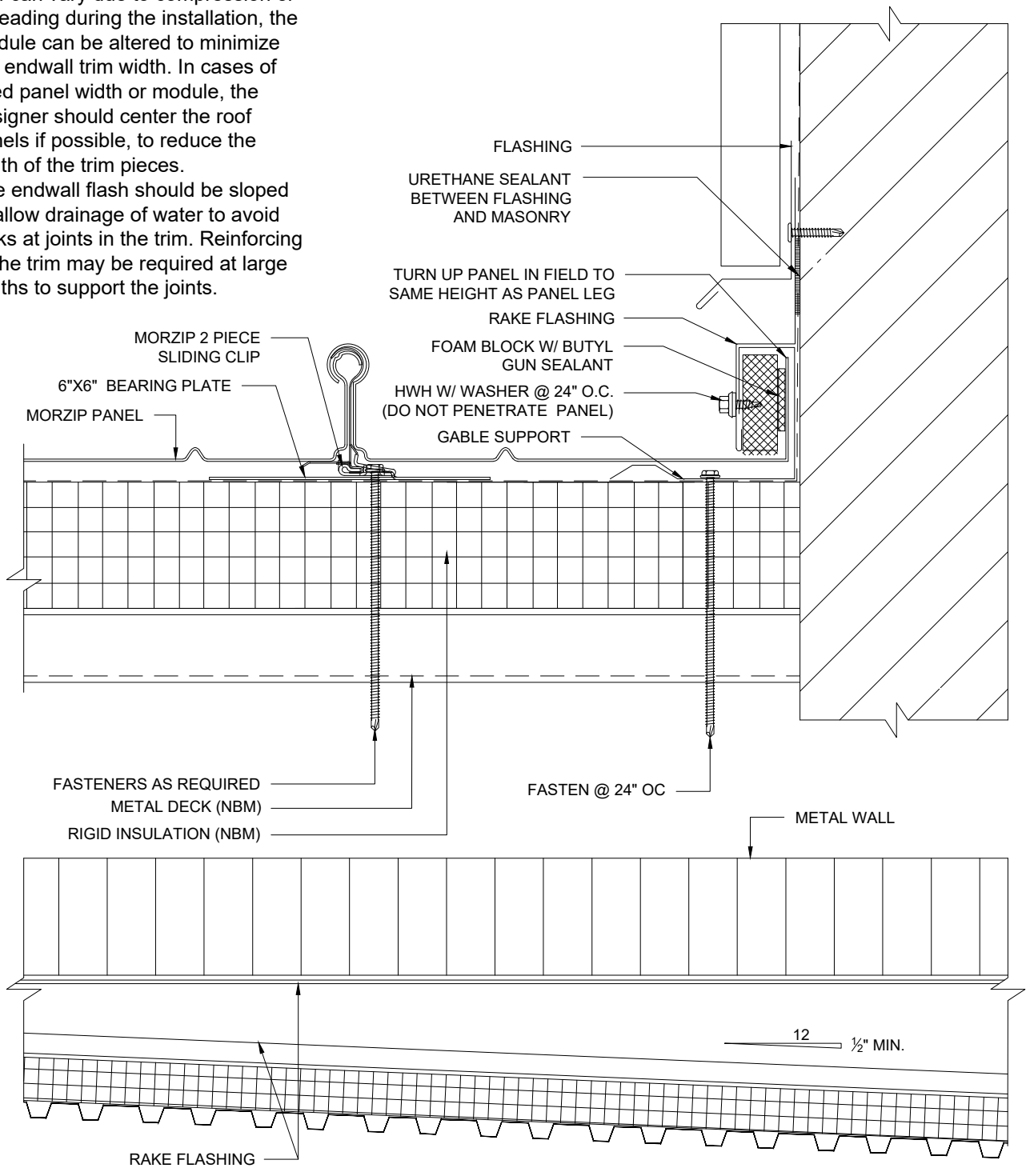
STEP:4
FIELD NOTCH AND BEND
TO CREATE OPEN HEM

*NOTCH HEM FOR EXPANSION

RAKE AT STEPPED EAVE INSTALLATION

*NBM = Not By Morin

Since the width of the standing seam roof can vary due to compression or spreading during the installation, the module can be altered to minimize the endwall trim width. In cases of fixed panel width or module, the designer should center the roof panels if possible, to reduce the width of the trim pieces.
The endwall flash should be sloped to allow drainage of water to avoid leaks at joints in the trim. Reinforcing of the trim may be required at large widths to support the joints.



FLOATING RAKE TO WALL DETAIL

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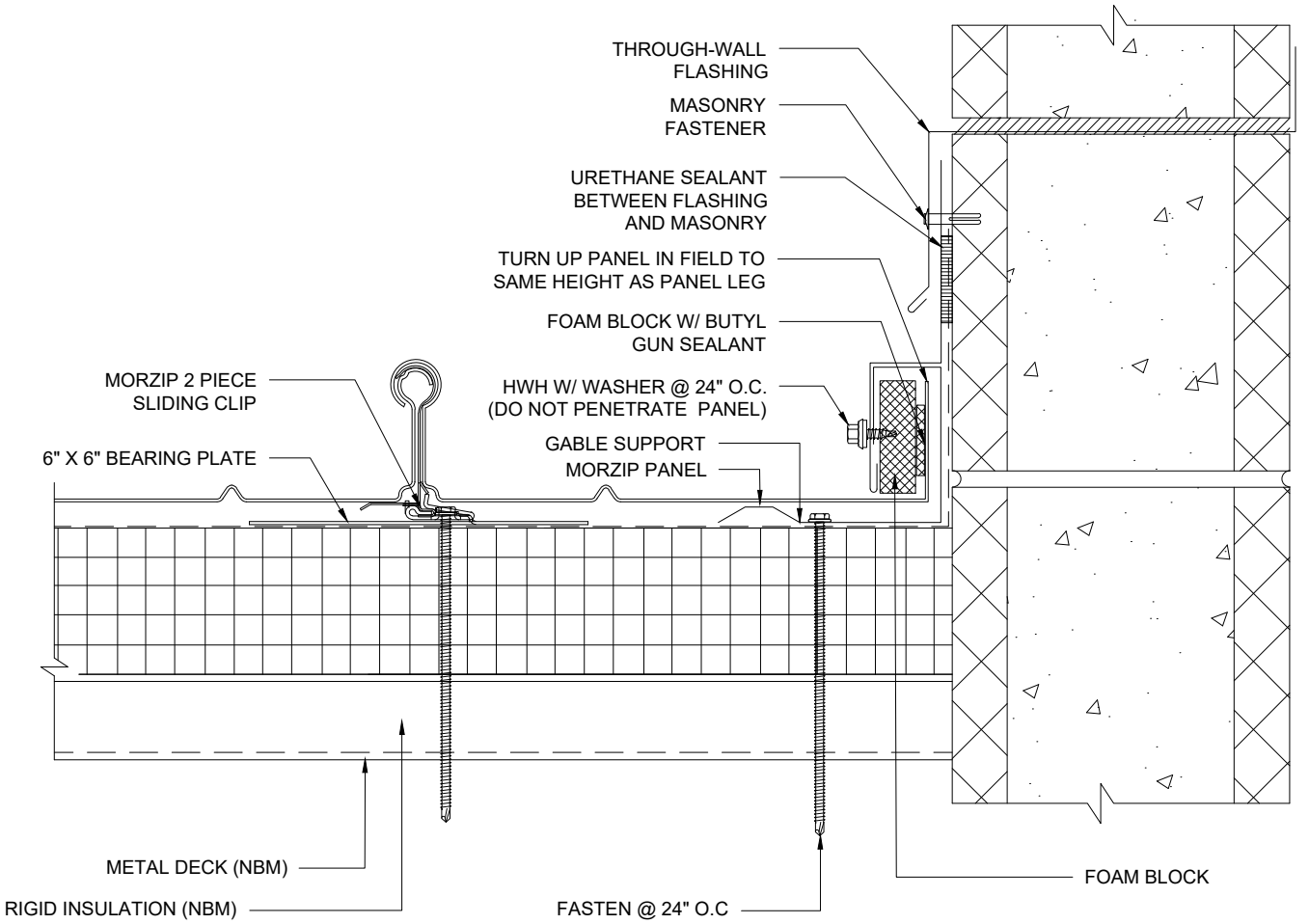
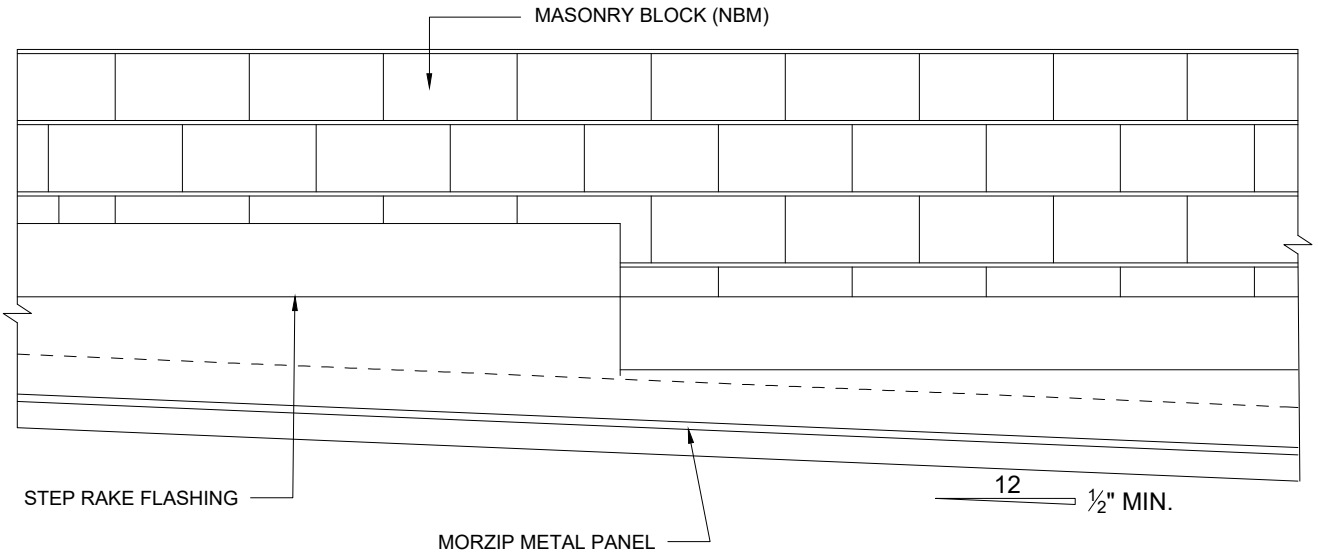
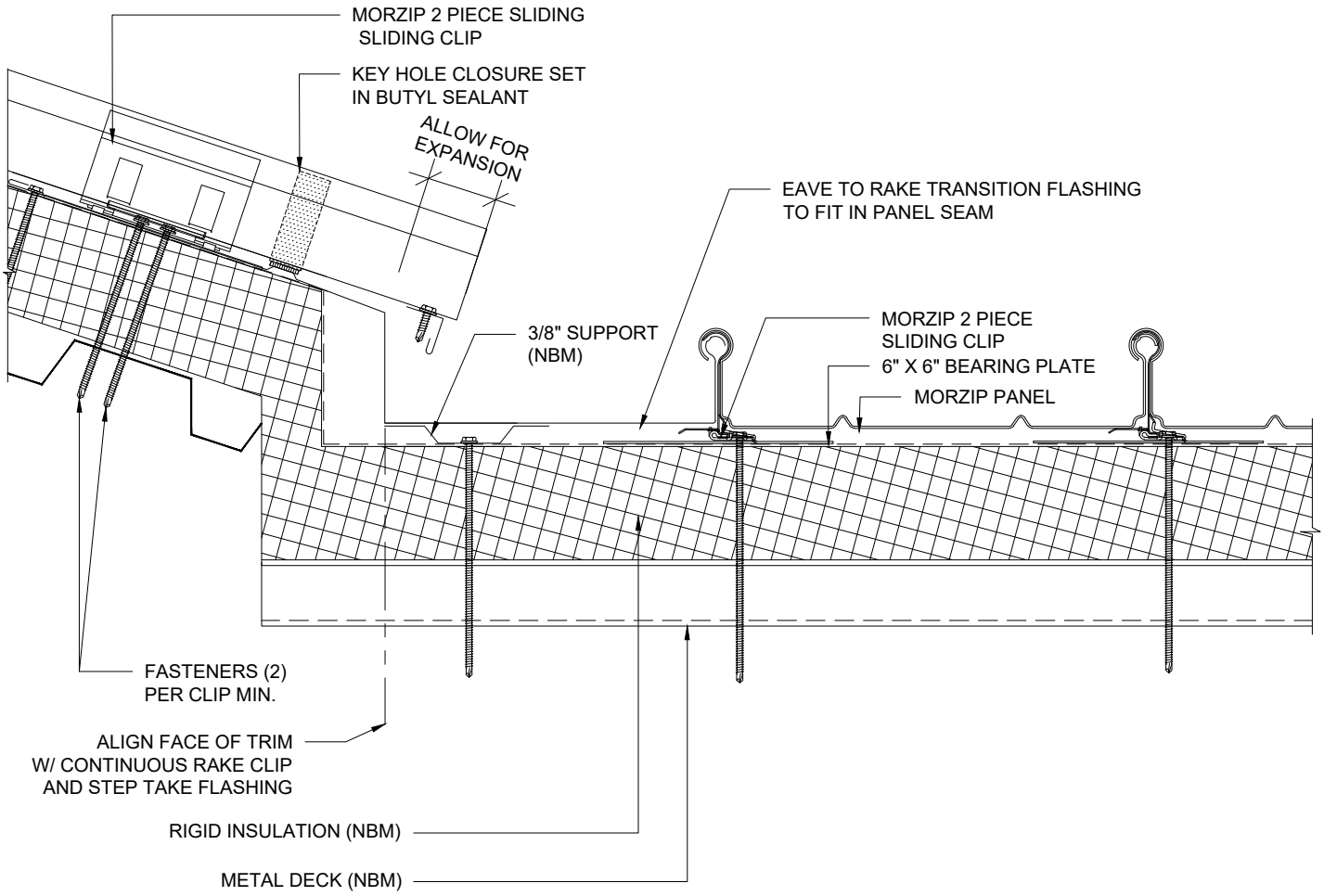




FLOATING ALTERNATE RAKE TO WALL DETAIL

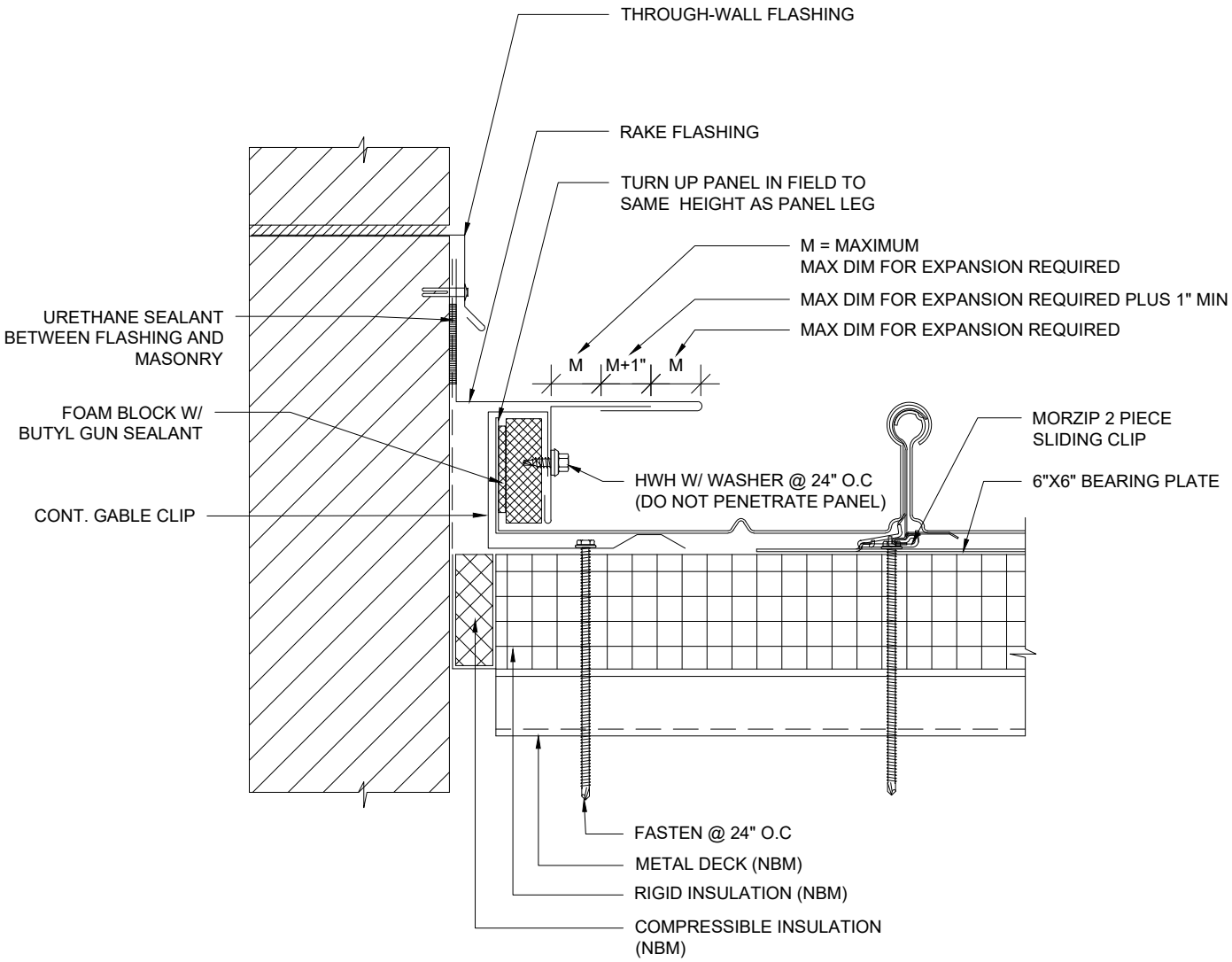
*NBM = Not By Morin



Note:
See Rake to Wall and Eave Details for general notes.

FLOATING RAKE TO EAVE DETAIL

*NBM = Not By Morin



OPTIONS:

1) Field cut starter panel so that rake panels on both ends of roof are of same width requires field bending of cut panel to fit under formed 18 gauge gable support (as shown above).
2) Start roof with full panel, insert roll formed leg under formed 18 gauge gable support.

FLOATING RAKE TO WALL EXPANSION JOINT DETAIL

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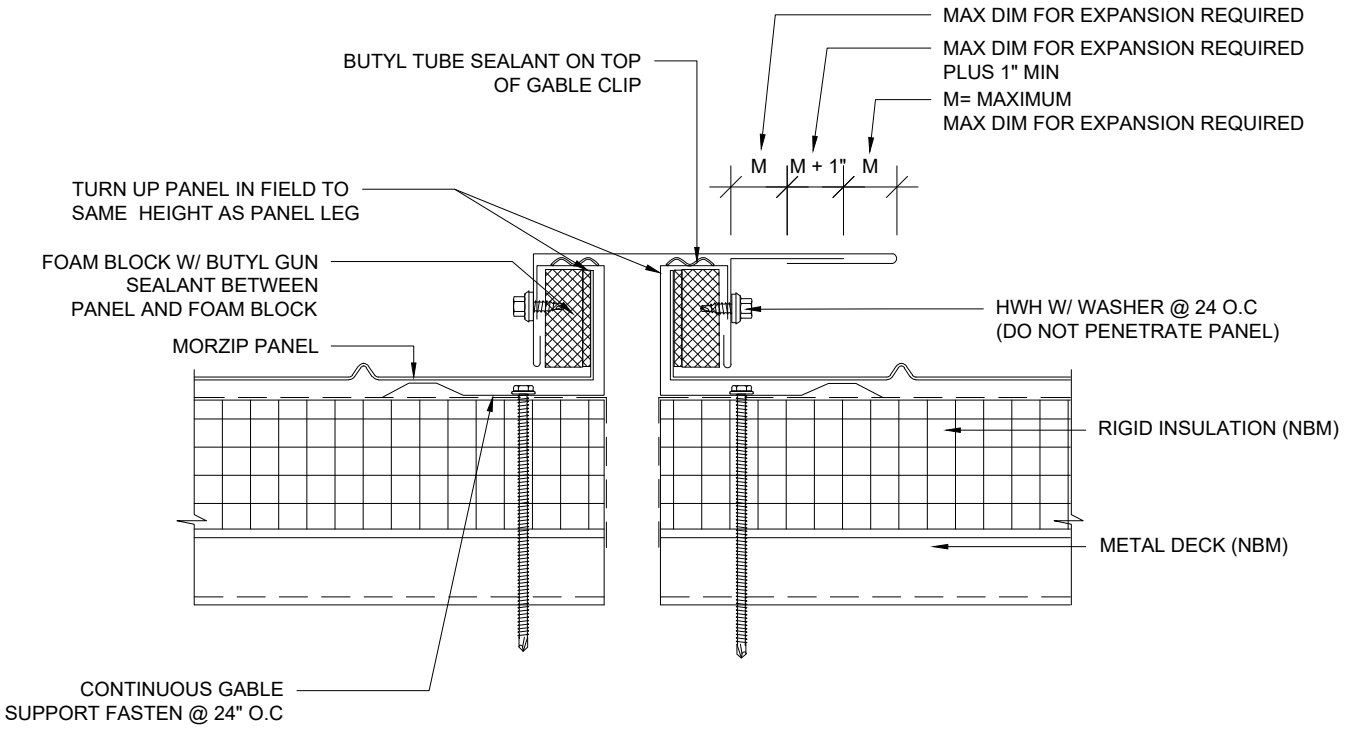

Some building designs require an expansion joint to accommodate movement of the structure. The detail must be designed to allow movement in the anticipated directions. Several proprietary products are available which can be integrated into this basic design.

OPTIONS:
1) Field cut starter panel so that rake panels on both ends of roof are of same width requires field bending of cut panel to fit under formed 18 gauge gable support (as shown above).
2) Start roof with full panel, insert roll formed leg under formed 18 gauge gable support.

PANEL EXPANSION JOINT DETAIL

*NBM = Not By Morin

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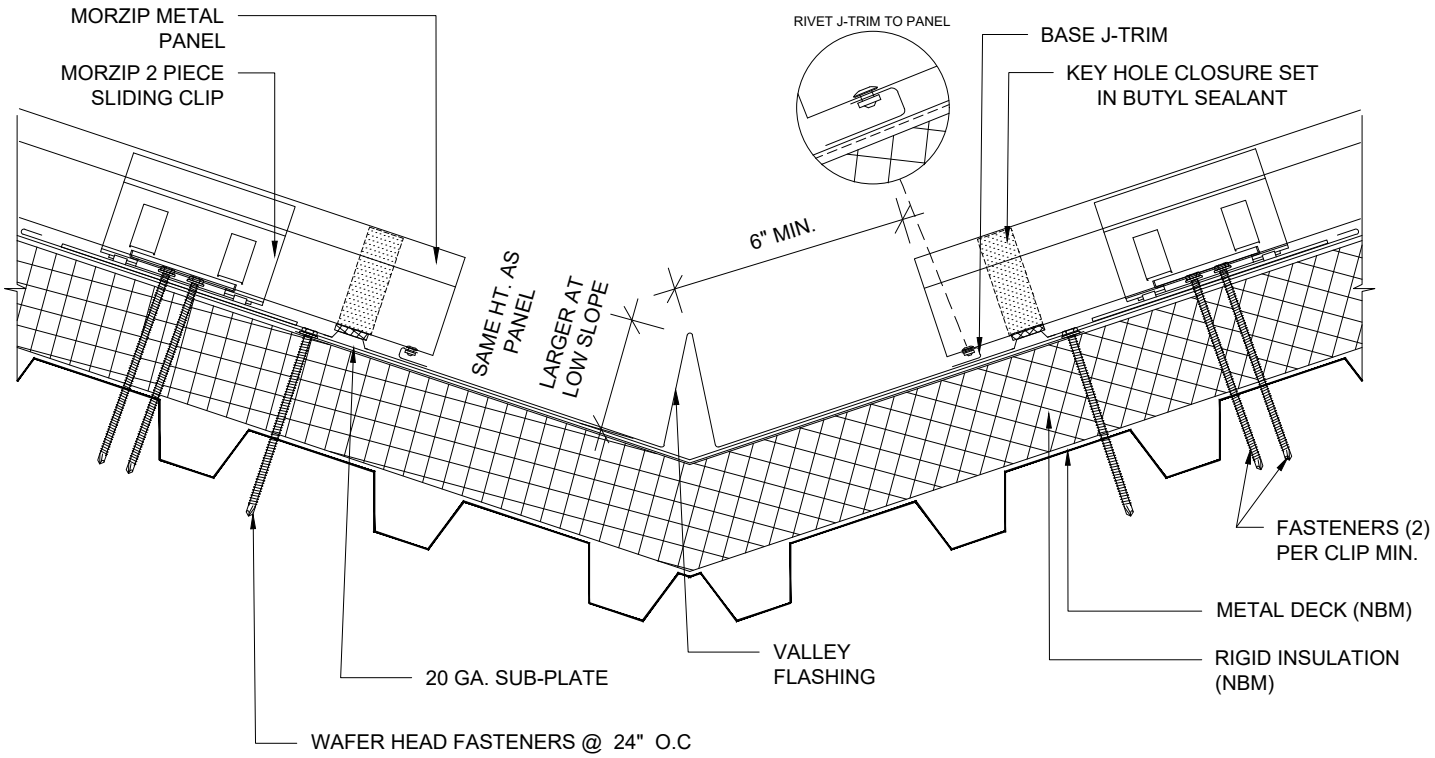

Some building designs require an expansion joint to accommodate movement of the structure. The detail must be designed to allow movement in the anticipated directions. Several proprietary products are available which can be integrated into this basic design.

Valley flashing must allow for sufficient area to carry anticipated runoff without overflow or backup under the roof edge. The raised center assists in diversion of water and allows for thermal movement. Floating valley requires fixed hip/ ridge or mid-point of panel length.

OPTIONS:

1) Field cut starter panel so that rake panels on both ends of roof are of same width requires field bending of cut pan to fit under formed 18 gauge gable support (as shown above).
2) Start roof with full panel, insert roll formed leg under formed 18 gauge gable suppor

FLOATING VALLEY DETAIL

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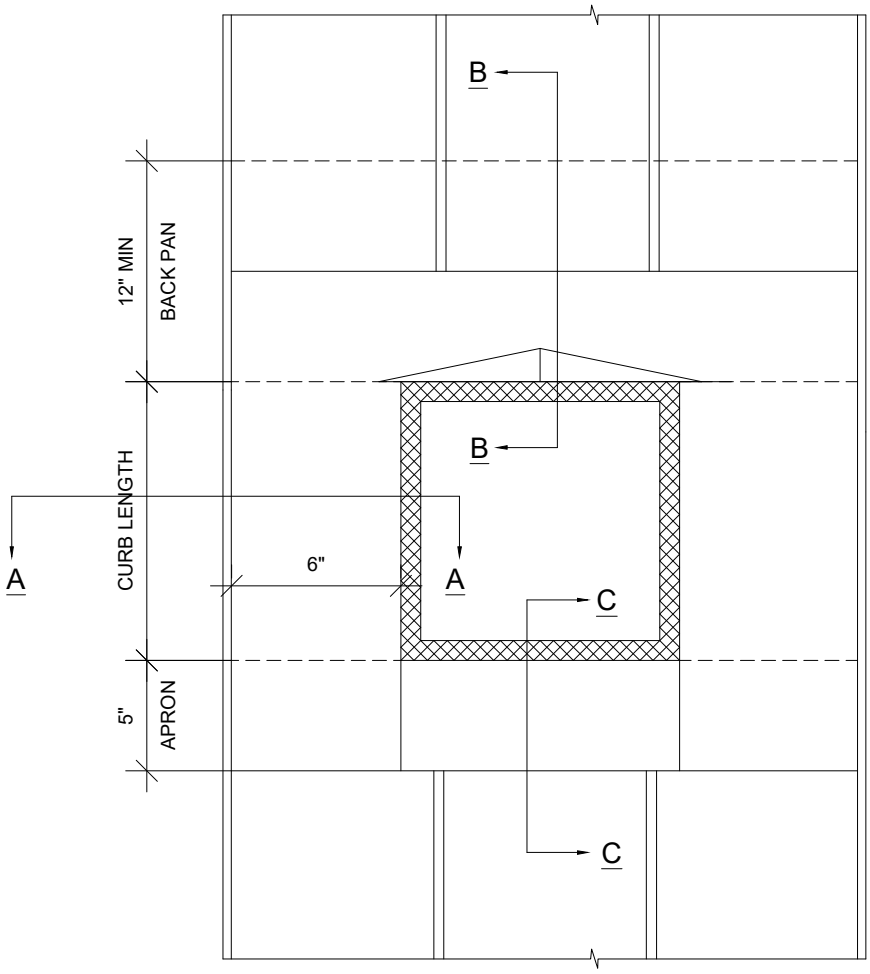

Large openings for equipment or hatchways require a curb with means of diverting the water around the opening. Set and secure roof curb on support framing. At least two parallel curb walls must be on support framing. In high load areas engineer needs to check for proper support. Loads shall not be supported by cantilever sections exceeding 1’0” in length. Cut roof panels to fit snugly around curb walls and to within 1” of the water diverter. Apply a wide band of tape caulk to the top side of curb flanges. Install and seal closures in ends of panels. Plug and caulk all rib ends. Press roof panels into place. Fasten roof panels through curb flanges to support steel using suitable fasteners for the roof system. A spacing of approximately 3” should be used. Inspect installation and fasteners. Apply an exterior sealant to seal seams around all sides of curb to insure a weathertight seal. In all cases the curb assembly is capped by a collar or skirt that extends down over the curb. Curb to be fixed to panel only. Allowance must be made at equipment curb and trim to allow for thermal movement.

CURB FLASHING PLAN VIEW

*NBM = Not By Morin

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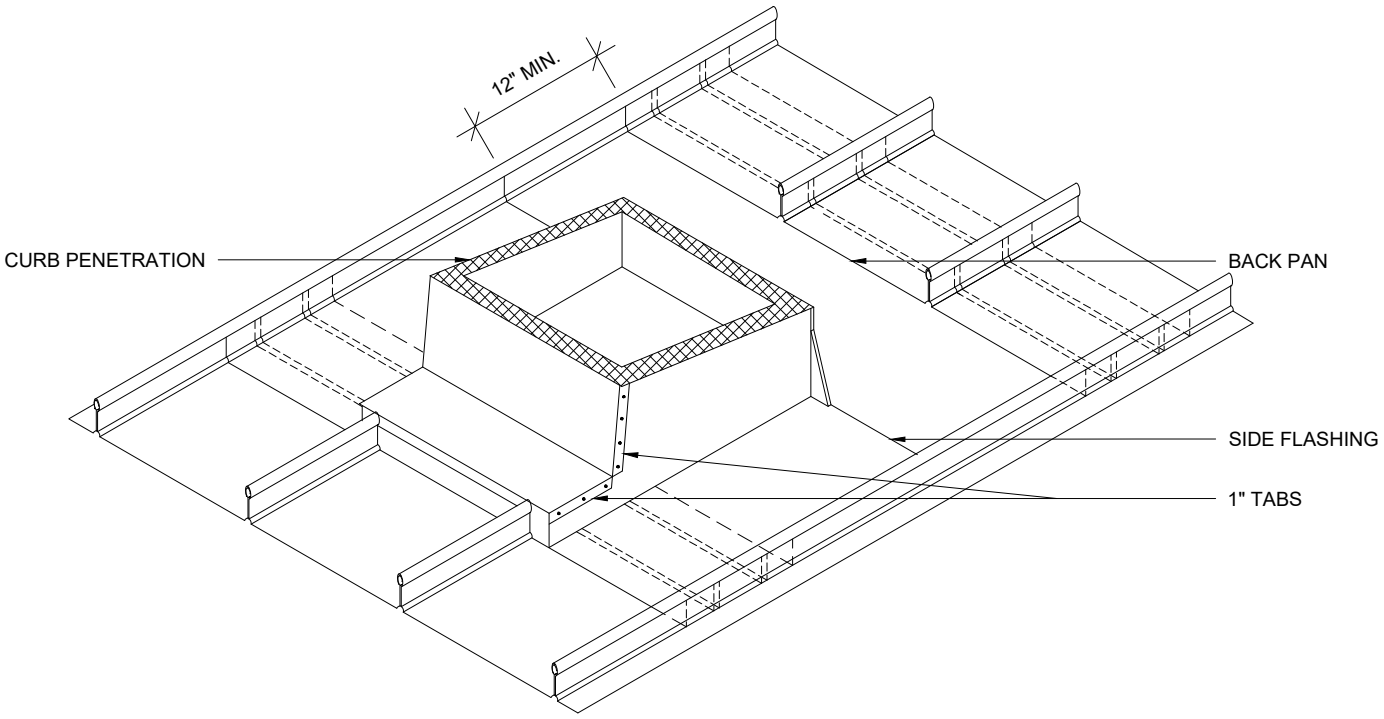
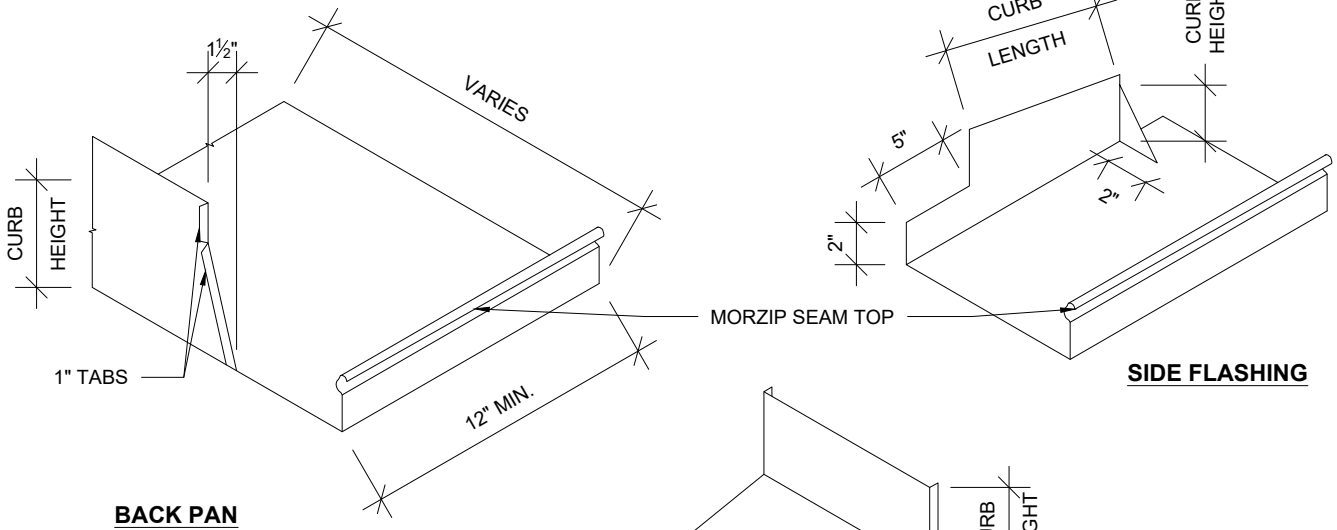
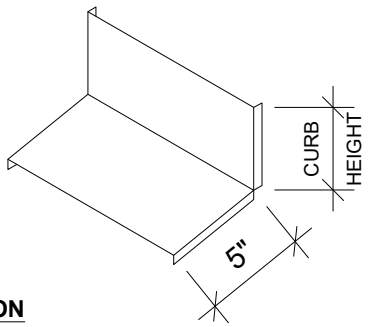


EQUIPMENT CURB FLASHING



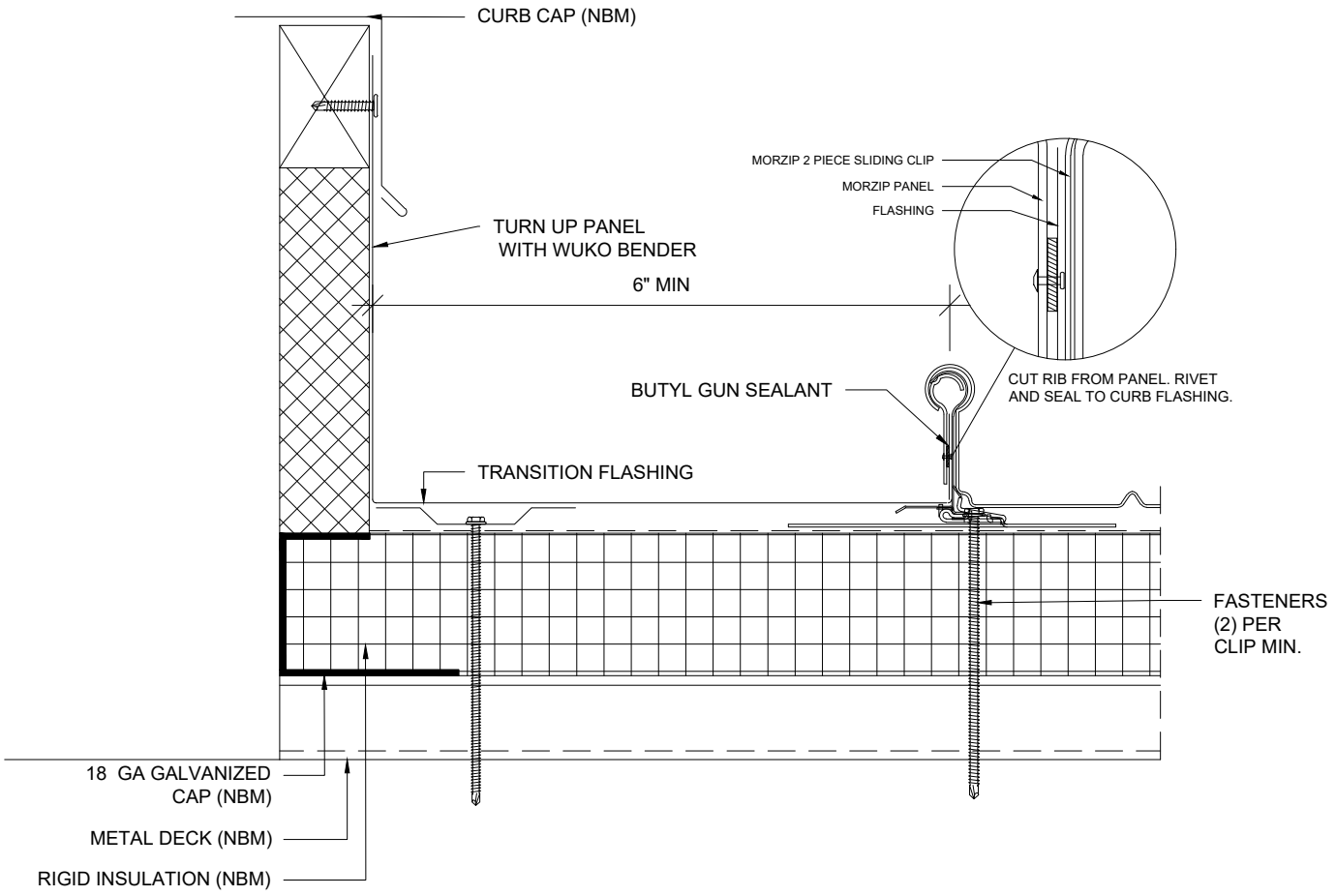
BACK PAN

SIDE FLASHING



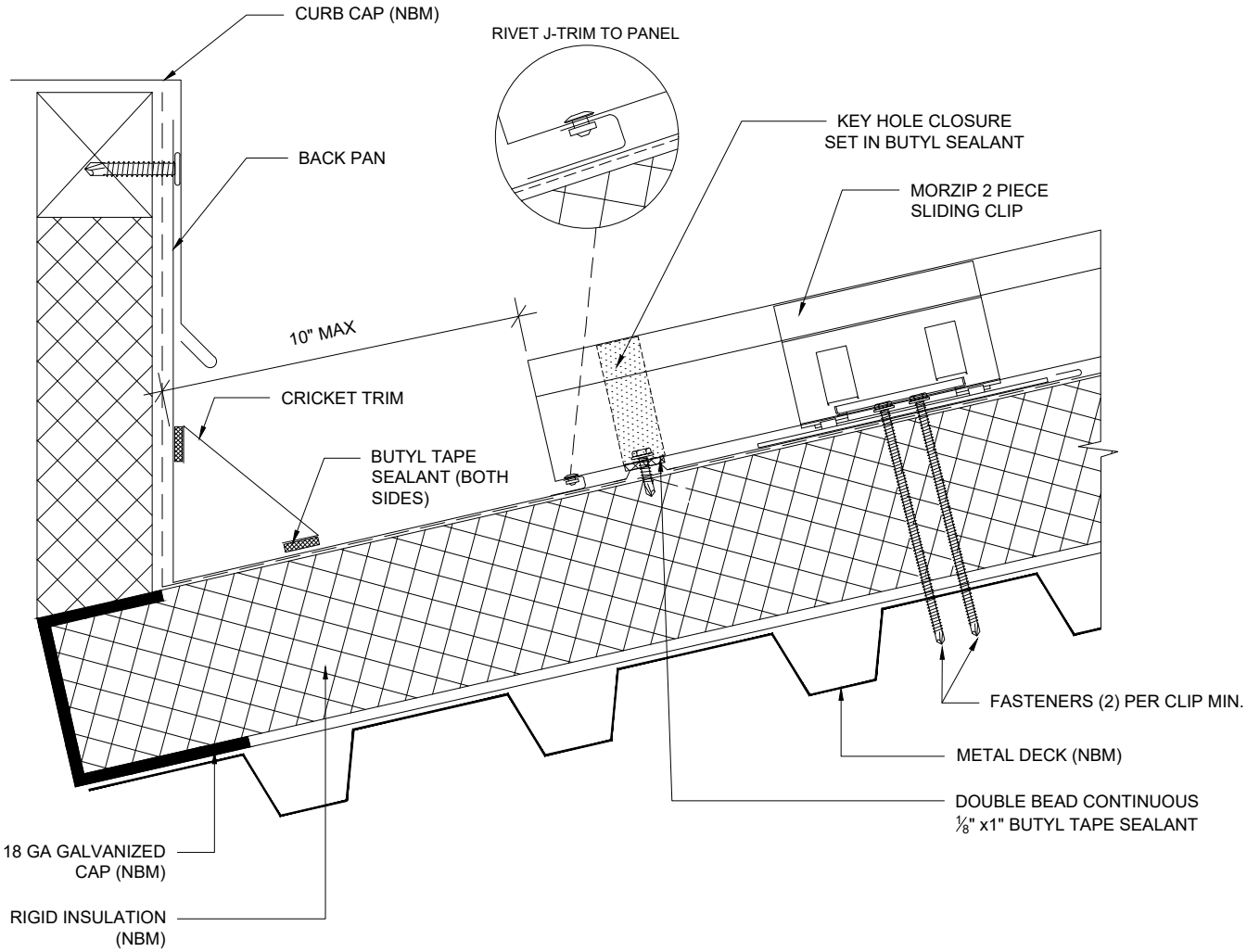
APRON

*NBM = Not By Morin



CURB - SECTION A

*NBM = Not By Morin



CURB - SECTION B

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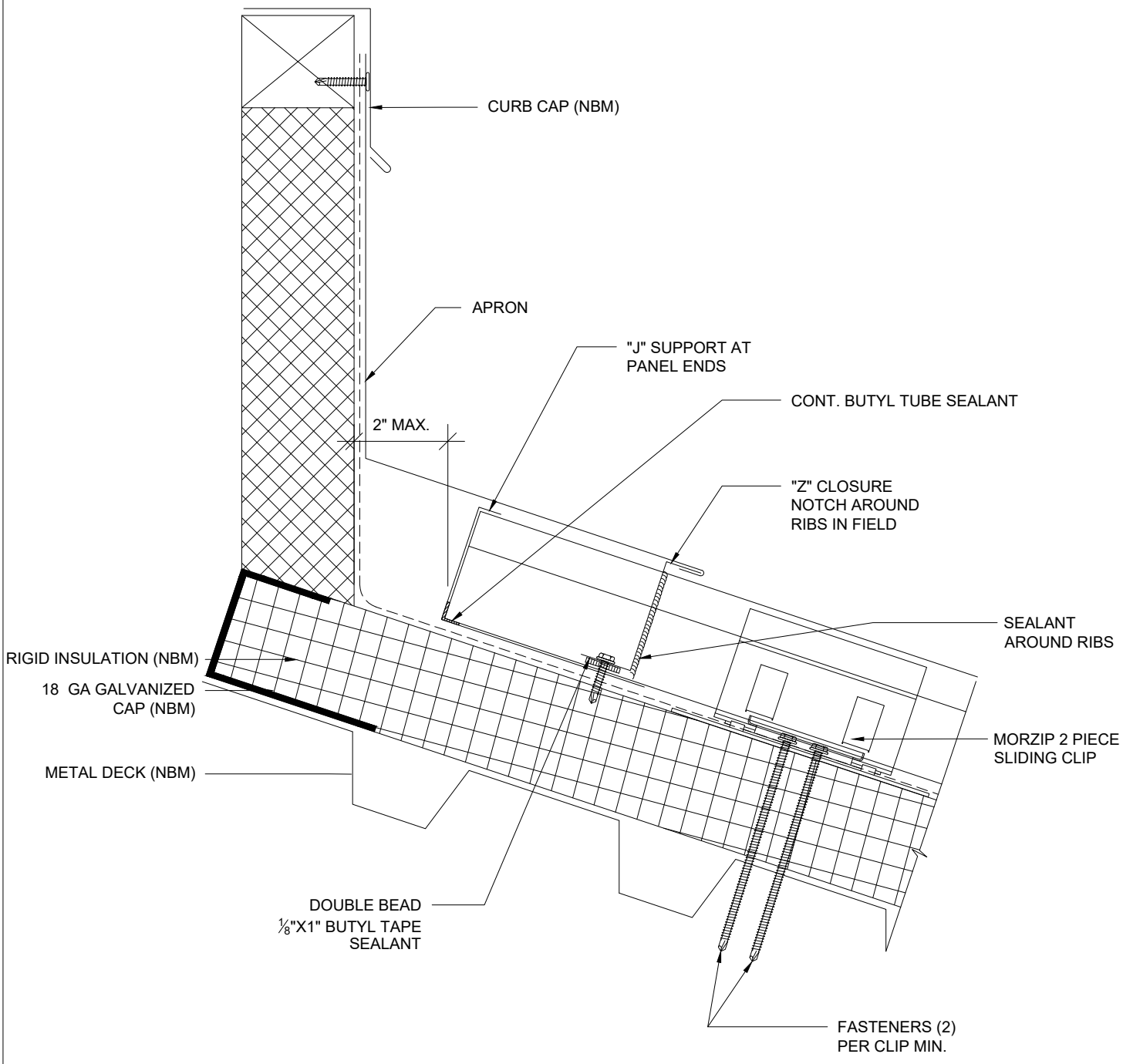
MorZip™ Series

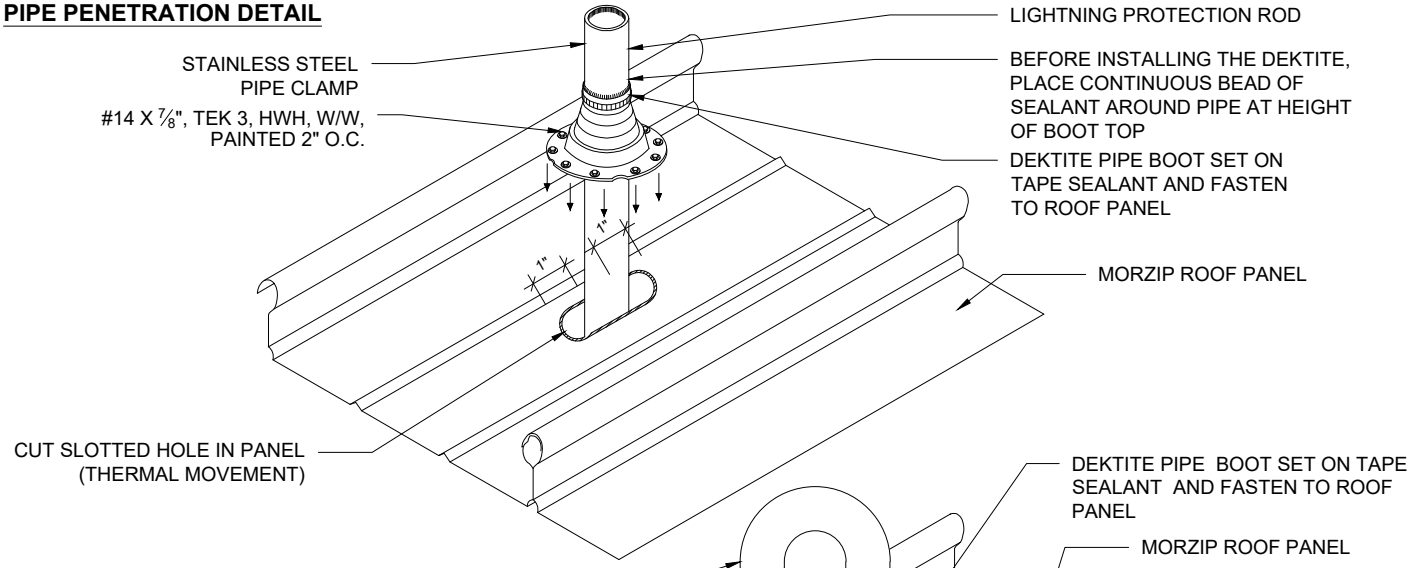


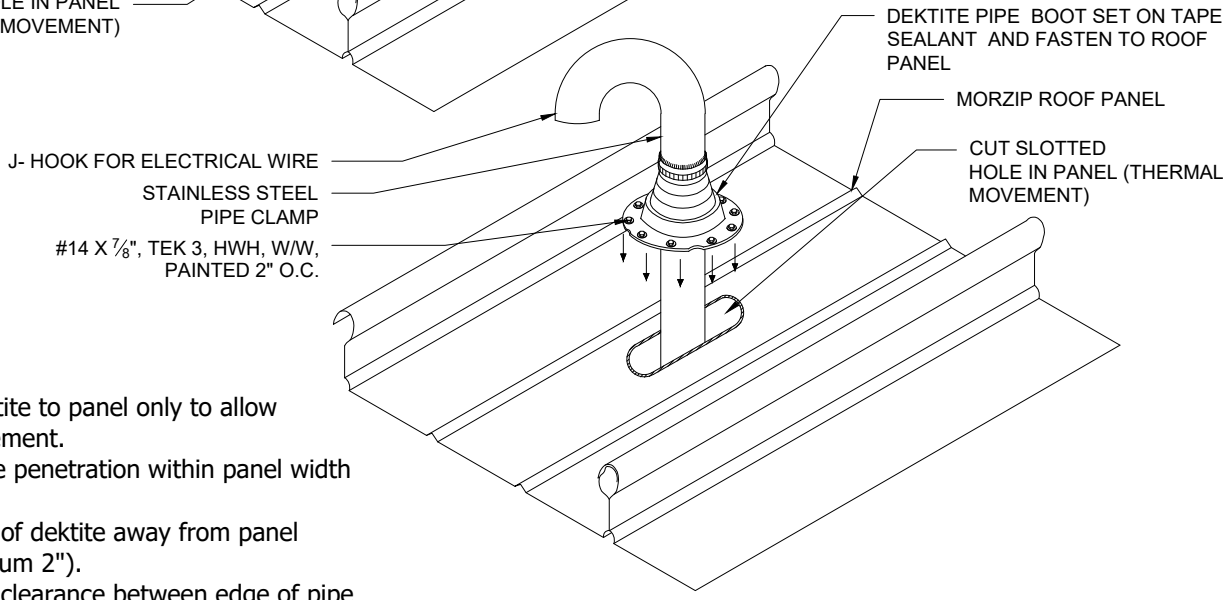
CURB - SECTION C

*NBM = Not By Morin

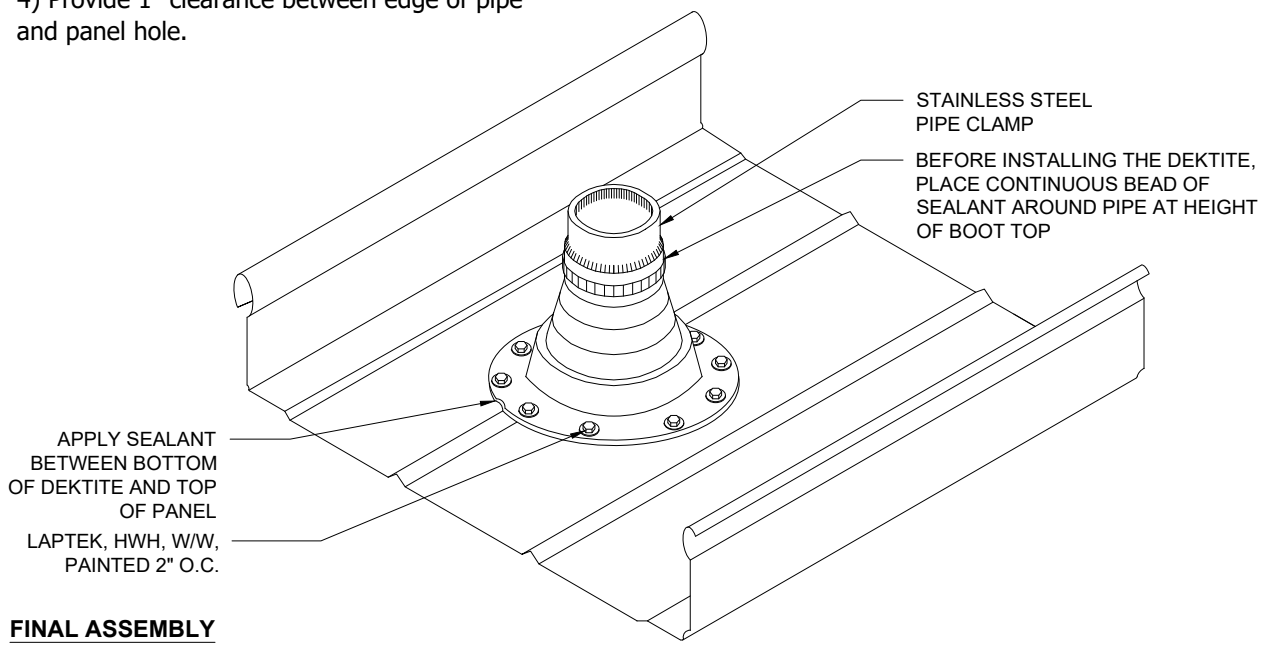
MorZip™ Series

PIPE PENETRATION DETAIL



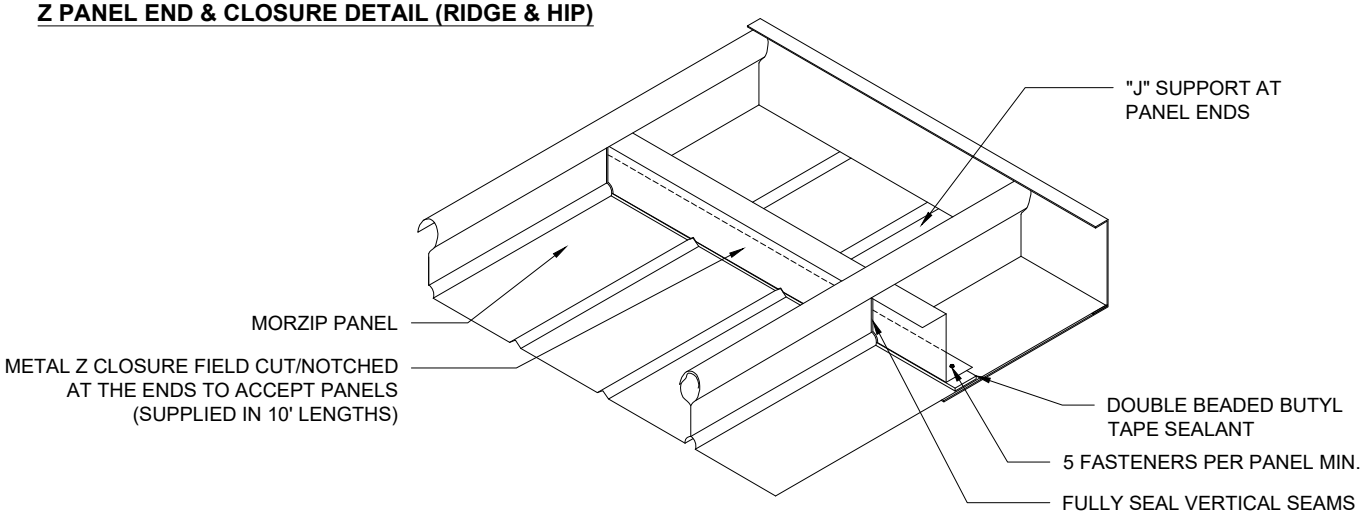


Notes:
1) Attach dektite to panel only to allow thermal movement.
2) Center pipe penetration within panel width if possible.
3) Keep base of dektite away from panel edges (minimum 2").
4) Provide 1" clearance between edge of pipe and panel hole.



FINAL ASSEMBLY

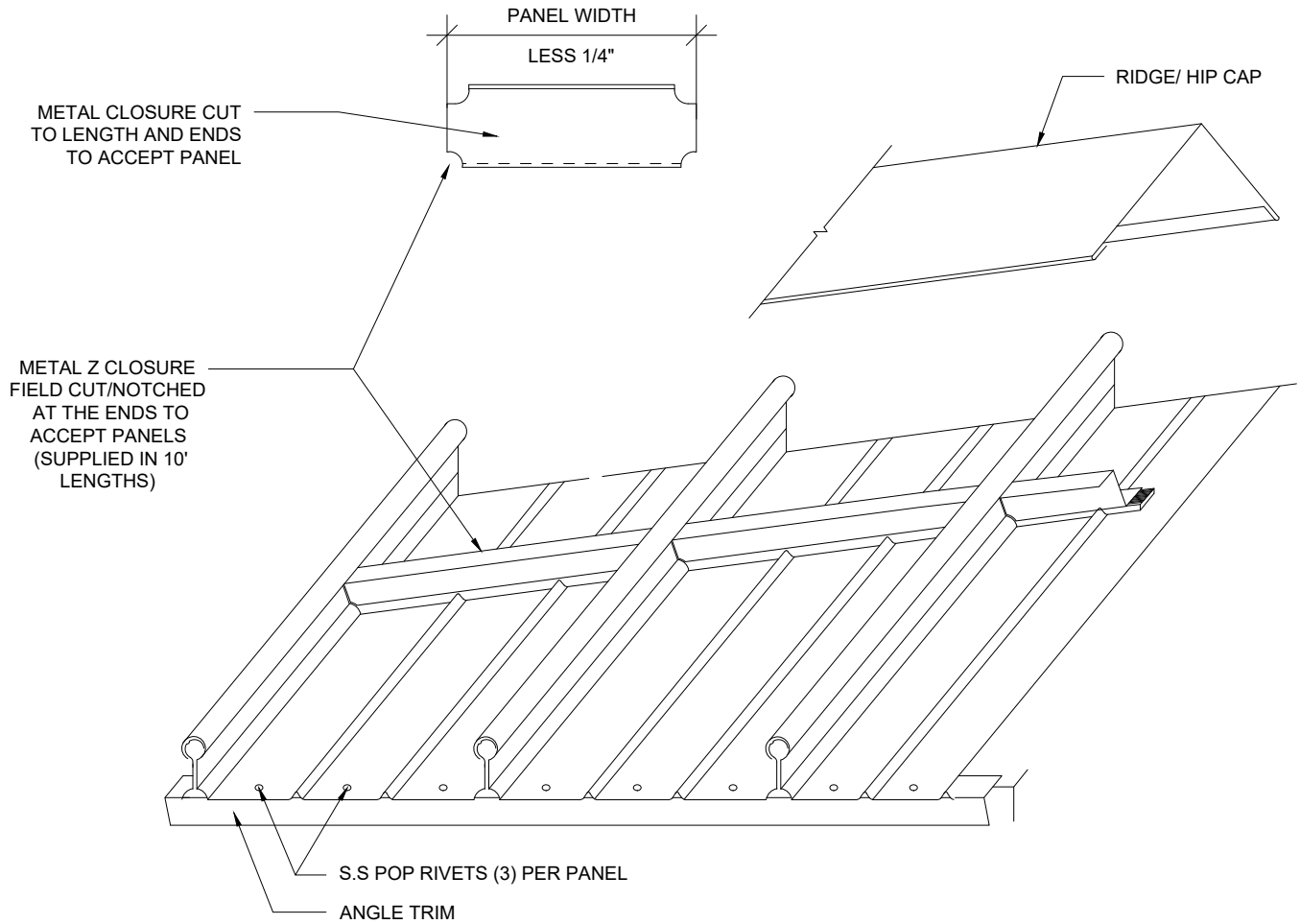
Z PANEL END & CLOSURE DETAIL (RIDGE & HIP)



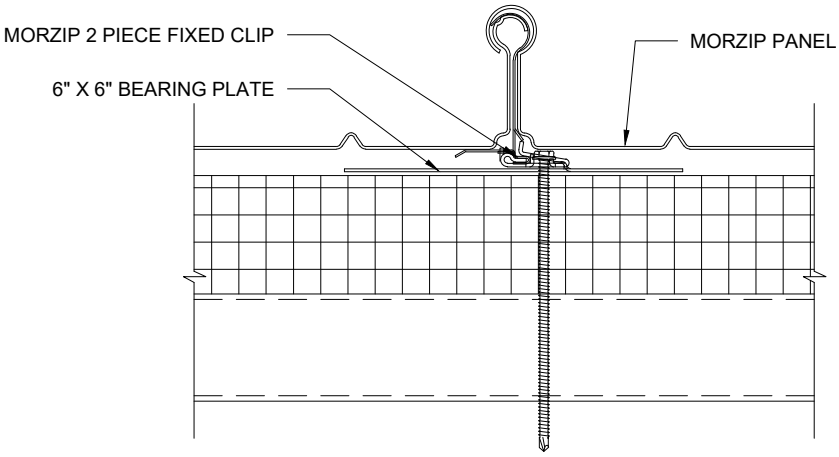
Note:

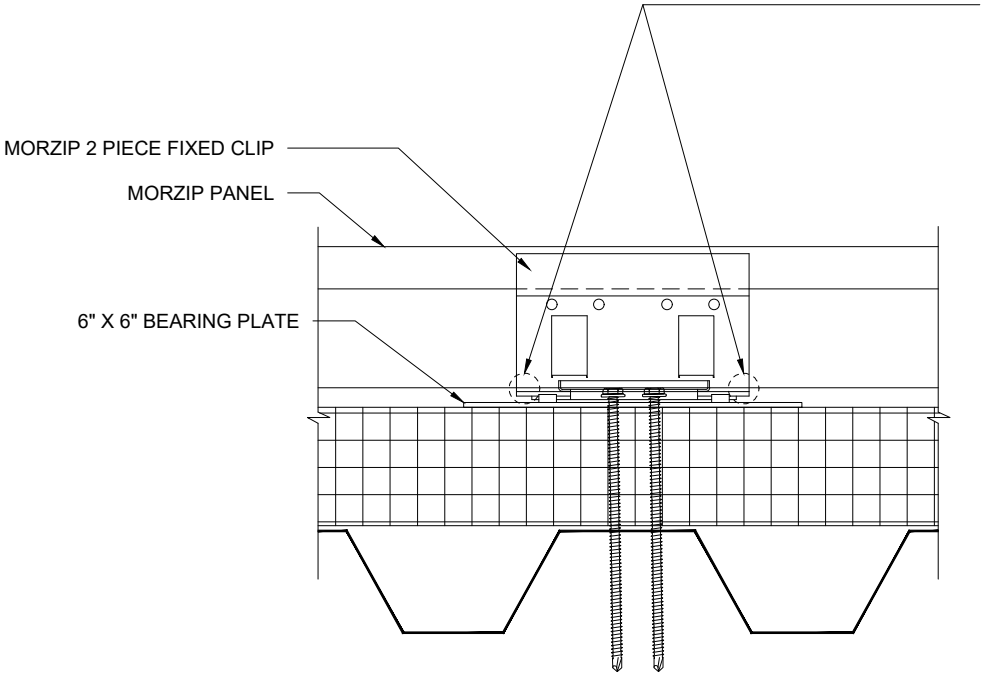
1)See ridge details for more information.

2)Set closure in butyl tape (top and bottom)

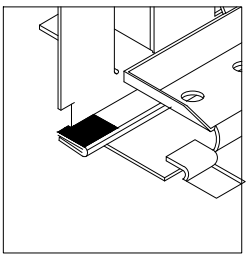


MorZip™ Series

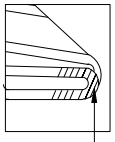




2 PIECE FIXED CLIP
(Field crimp both sides of rolled edge on upper piece of clip fully on each side of lower base piece. Clip should not be able to slide.)



CRIMP WITH SIDECUTTER AT BOTH ENDS

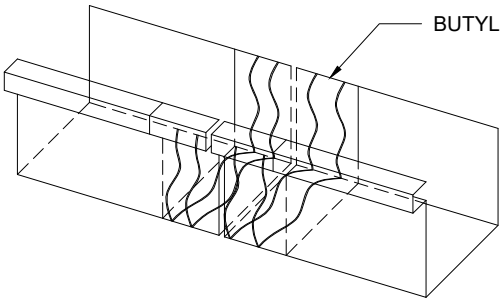


CRIMPED ROLLED EDGE

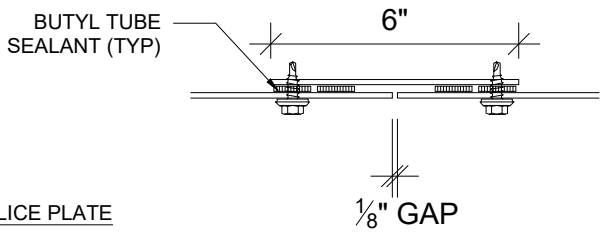
The roofing system as a floating system must have some means by which to attach it to the structure & yet not restrict its floating ability to handle the thermal expansion/ contraction found in the system. Because of the above reasons, Morin's MorZip™ panels must be positively attached at one or more purlins along a line perpendicular to the panel's vertical rib. The ideal location of what the panel industry calls a "fix point line" is at the center of the panel run. By having the fixed point at this location, the amount of travel of the panel over the clip is held to a minimum. Where you have very long panel runs, it may be required to have more then one row of fixed points. When this is necessary, then the rows should be on adjacent rows of purlins. Refer to fixed point details in this manual for methods of installation and recommended locations. Acceptable alternate locations for these fixed point are at either the ridge or eave of the roof. Exceptions to all of the recommended fixed point locations may be needed because of various design restrictions such as large roof penetrations, restraints at the ends of a panel run, an irregular shaped roof surface or at roof hip and valley locations. Panel lengths over 50' require fixed point at mid-run.

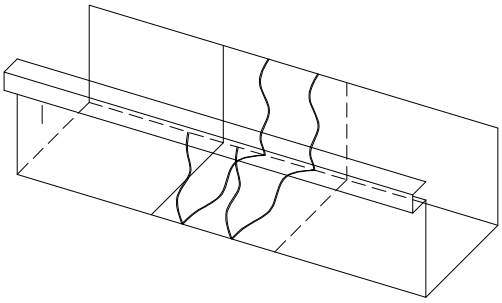
FIXED CENTER CLIP

MorZip™ Series

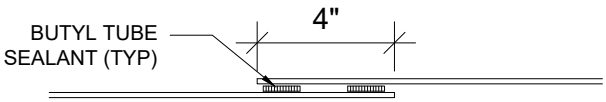


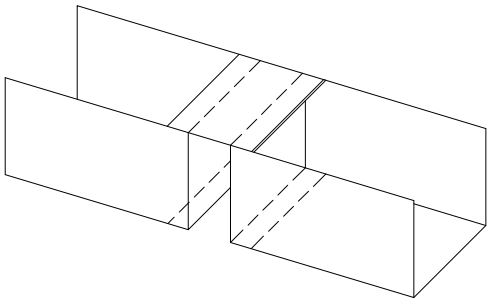
GUTTER SPLICE PLATE



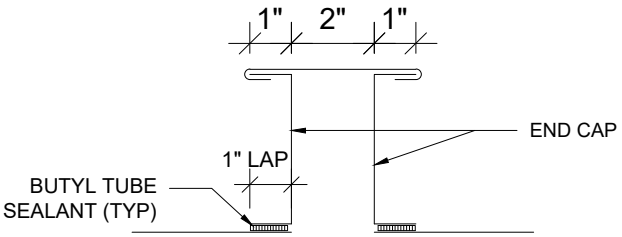


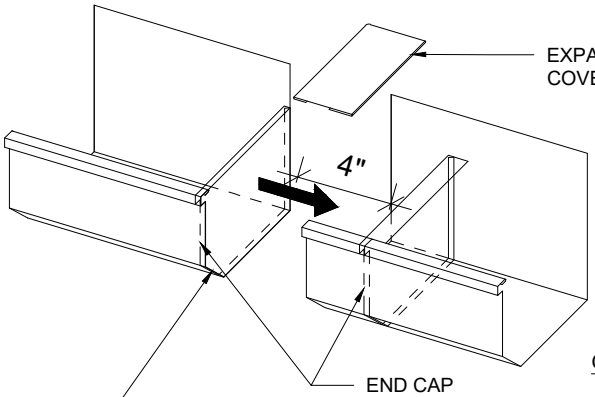
GUTTER LAP DETAIL



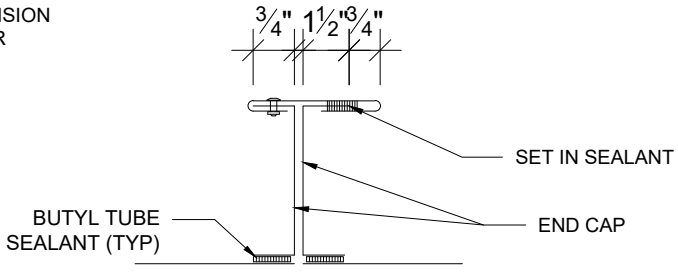


GUTTER EXPANSION DETAIL





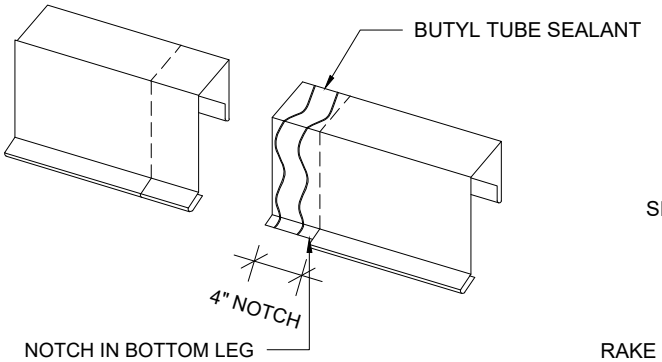
GUTTER EXPANSION DETAIL

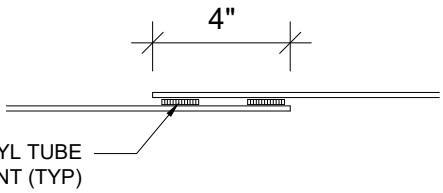


Note: Use expansion joint every 25'

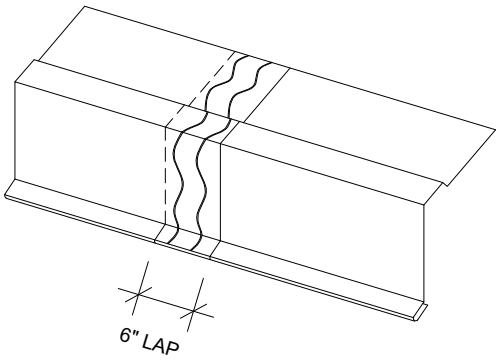
GUTTER FLASHING CONDITIONS

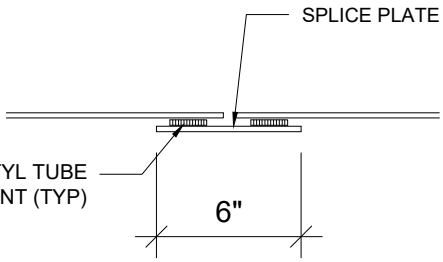
MorZip™ Series



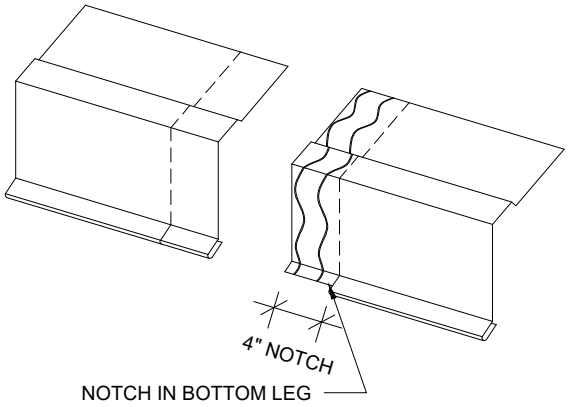


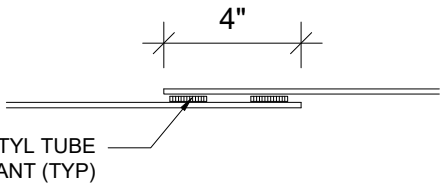
RAKE LAP DETAIL





EAVE INSIDE SPLICE PLATE



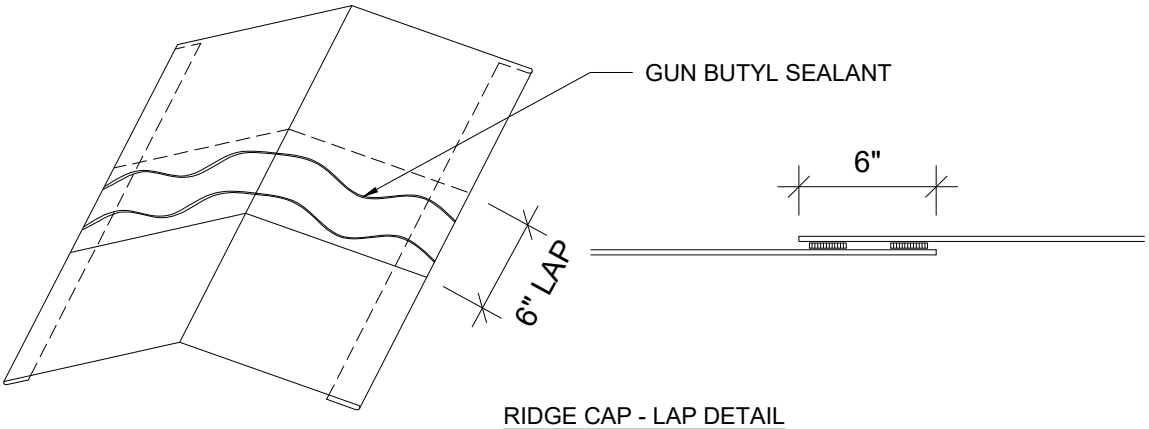


EAVE LAP DETAIL

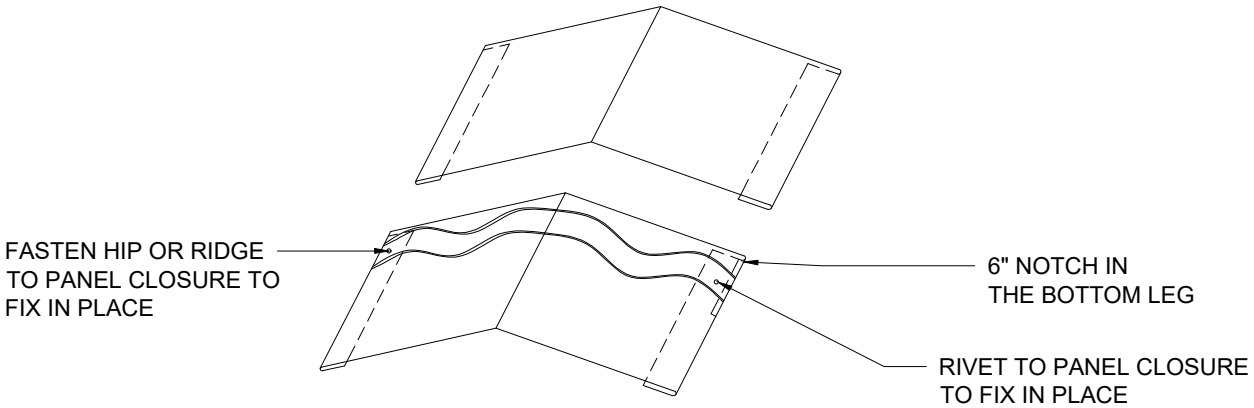
Note: Shingle laps in direction of water flow.

RAKE AND EAVE FLASHING CONDITION

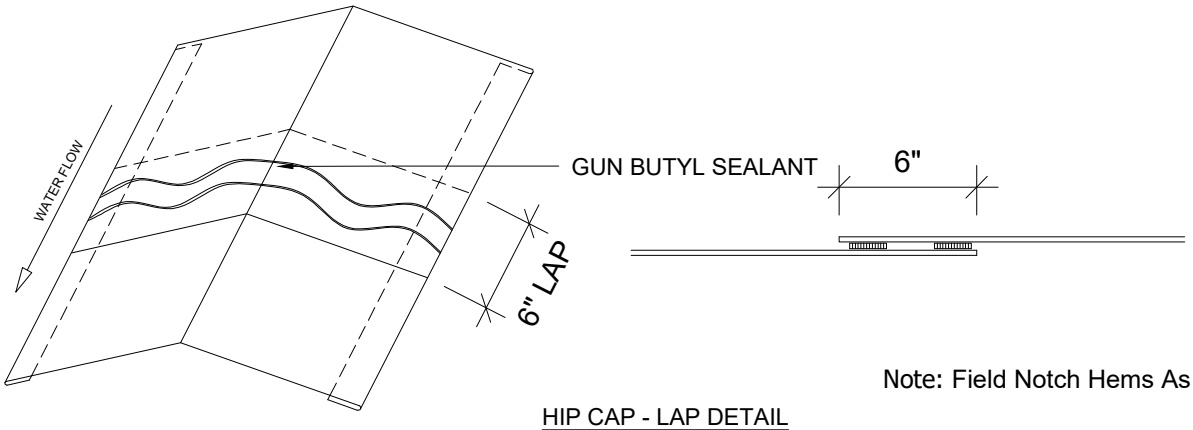
MorZip™ Series



RIDGE CAP - LAP DETAIL



TYP. LAP DETAIL

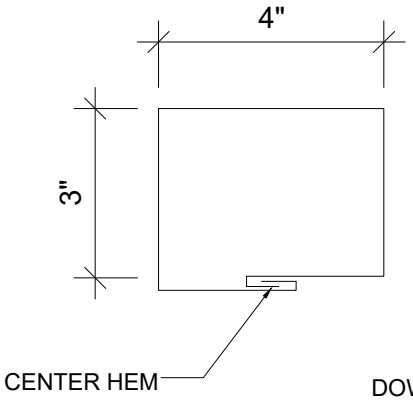


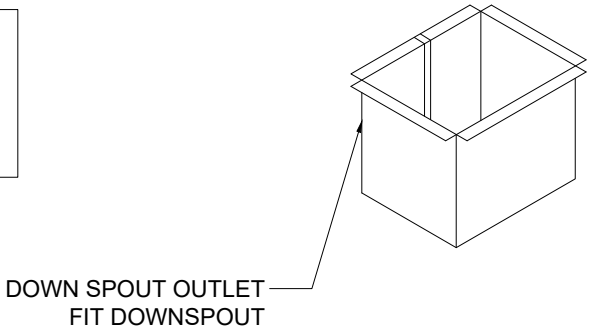
Note: Field Notch Hems As Required.

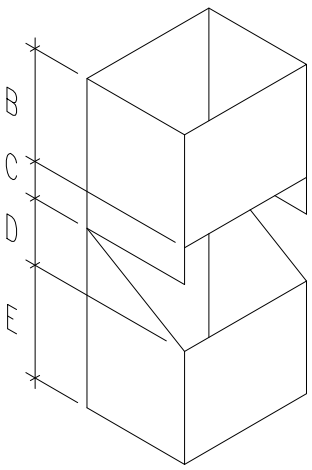
HIP CAP - LAP DETAIL

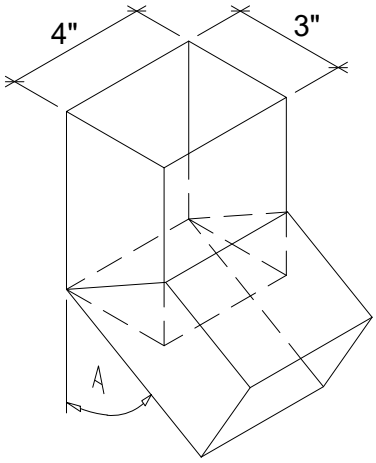
RIDGE AND HIP FLASHING CONDITION

MorZip™ Series







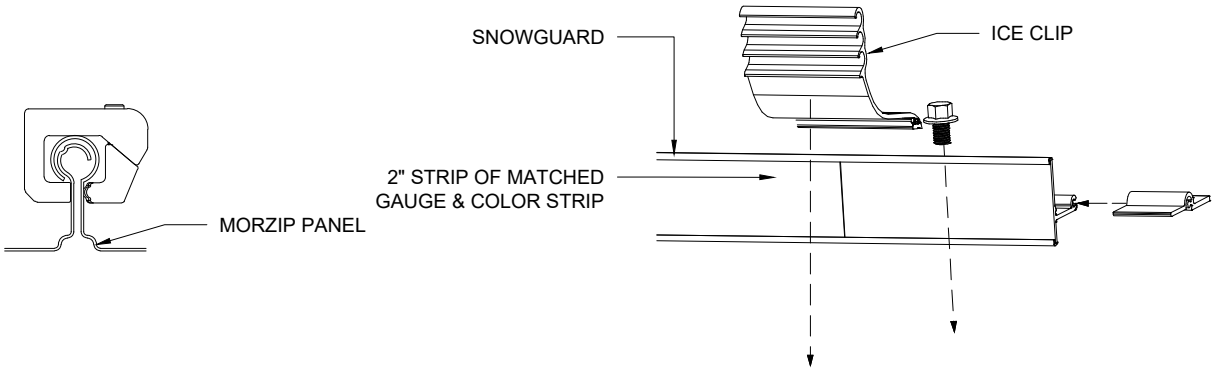


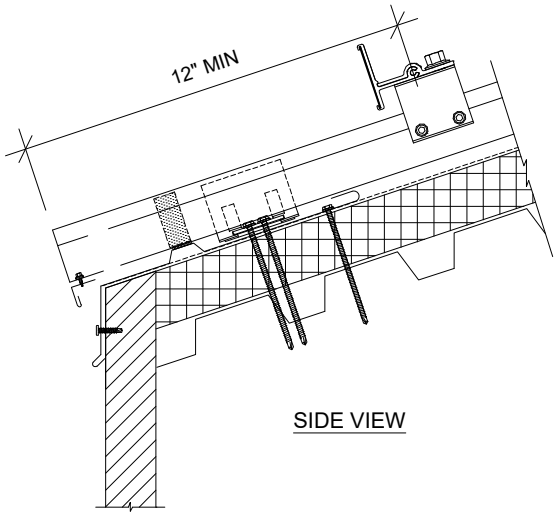
TYPICAL 4" X 3" ELBOW DIMENSIONS WITH 6" RETURN

A	B	C	D	E	
90.00°	3.2500	2.7500	3.0625	2.9375	= 12.0000
60.00°	4.5625	1.4375	1.8125	4.1875	= 12.0000
45.00°	5.1250	0.875	1.3125	4.6875	= 12.0000
30.00°	5.6875	0.3125	0.9375	5.0625	= 12.0000

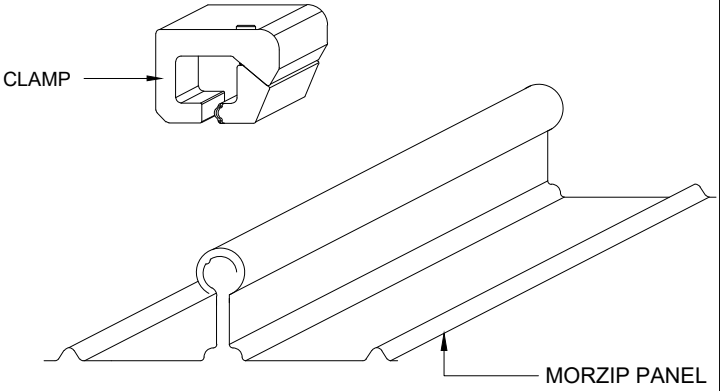
DOWNSPOUT

MorZip™ Series

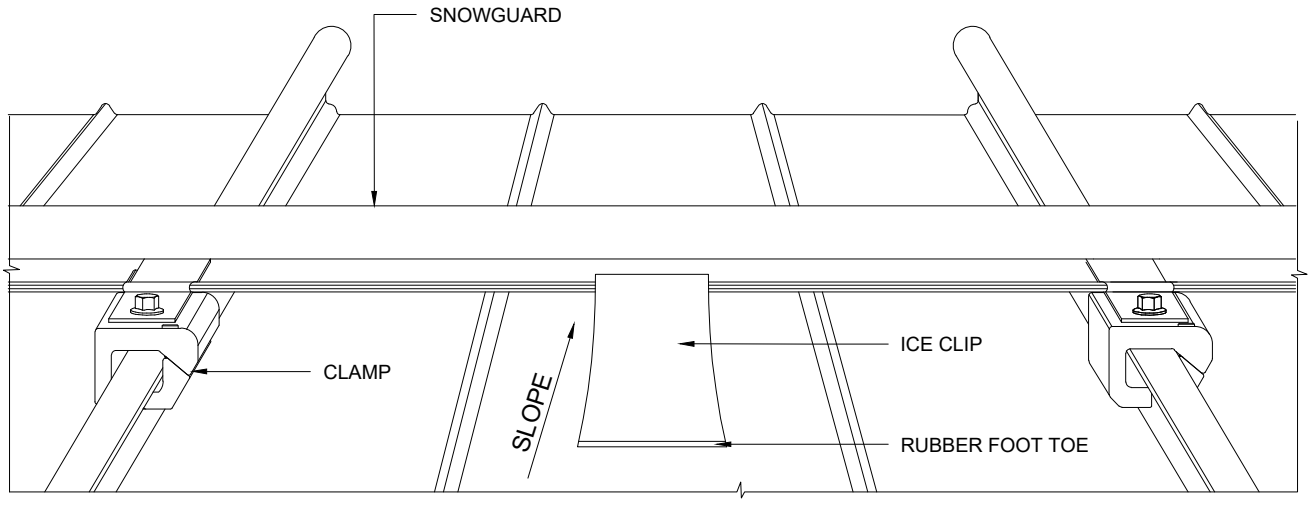




SIDE VIEW



ASSEMBLY OF THE SNOWGUARD



Note:
1) Mount snowguard clamp directly to top of panel rib with set screw.
2) Install 2" color strip from panel flat stock into snow guard.
3) Connect clip to snow guard, one per panel, centered.
4) Connect assembly to clamps.

SNOW GUARD

Contact Details

USA

HQ / East
685 Middle Street | Bristol
CT 06010

T: 1-800-640-9501

West
10707 Commerce Way | Fontana
CA 92337

T: 1-800-700-6140

South
1975 Eidson Drive | DeLand
FL 32724

T: 1-800-640-9501

Central
15000 Panatela Parkway | Little Rock
AR 72206

T: 1-800-640-9501

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